بسم الله الرحمن الرحيم

وقل رب زدني علما

مختلك ١٤٢٩

Ophthalmology summary for final exam

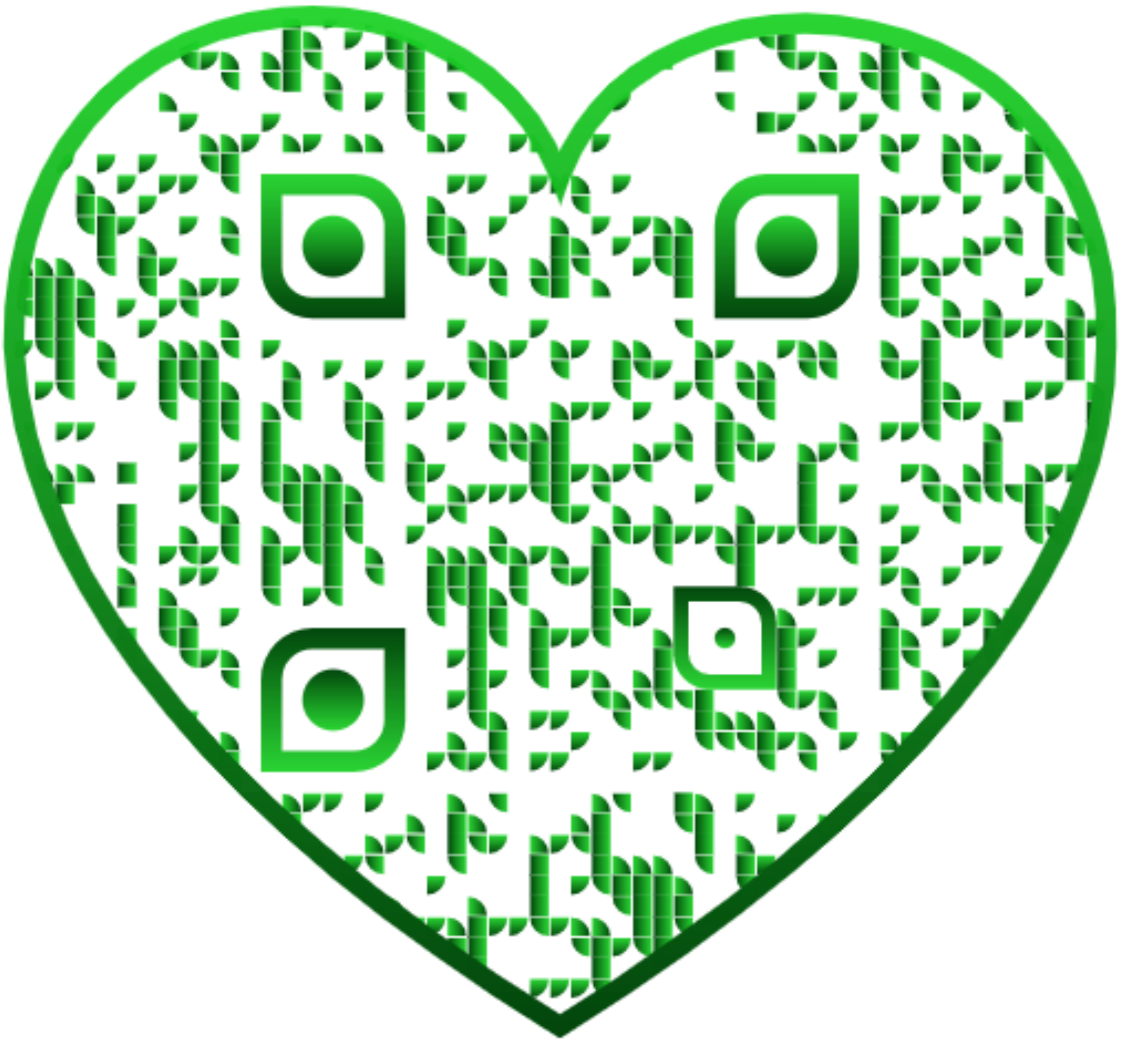
عمل الطالبات :

١. ريم عبدالمجيد محمد عون اليوسفي

٢. هند عادل عبده قحطان

٣. آية علي علي الوجية

الممسوحة ضوئيا بـ CamScanner



Reem Abdulmajeed Alyousefi

Red eye

Painless

1. Sub. conjunctival hemorrhage
2. Contact Lens.
3. Allergy.
4. Conjunctivitis.
5. Computer Syndrom.

Painful

with loss of vision.

1. Keratitis
2. Corneal Ulcer.
3. PCACG
4. Acute ↑ IOP
5. optic neuritis.
6. Surgery.
7. Endophthamitis & panophthalmitis
8. orbital cellulitis.

without loss of vision

1. Foreign Body.
2. Tumor.

Cases :-

* old age female, darkness, Fixed oval pupil and Sudden painful diminution of vision → ACG ((PCACG))
* Middle age Female, Complianing of pain increase with ocular motility, Sudden painfull loss of vision and from the history she is Suffering from MS. when the docter examin her fundus appear normal → optic Neuritis
* Male, come to emergency room complianing of painfull loss of vision, Red eye, photophobia, watering of the eye and blepharospasm → Corneal ulcer (keratitis)
* old age female, come to emergency room complianing of unilateral Sudden painful loss of vision, Red eye, nausea, vomiting and abdominal pain → ACG

Reem
Abdulmajeed
Alyousefi

D.D of loss of vision

Sudden

1. Acute Congestive Glaucoma (ACAG).
2. optic neuritis
3. Viterous hemorrhage.
4. Retinal detachment
5. CRAO or CRVO
6. Trumer
7. Quinine or Methanol poisoning
8. Amaurosis Fugax → Transient visual loss
   In ↳ Papiodema early stage
   ↳ CRAO
9. Hysterical.

Gradual

1. Progressive myopia.
2. Cataract
3. POAG
4. vitreous opacites.
5. Endophthalmitis & panophthelmit
6. Iridocyclitis & choroiditis.
7. corneal disease :-
   - Trachomatous pannus,
   corneal dystrophies.
8. Retinal disease :-
   - OR, RP
   - Age related macular degeneration
   - Myopic chronic retinal degeneration.
9. papilloedemes Lat stage
10. optic atrophy

Cases :—

* 45 Y.O Male, complicaning of Sudden painless loss of vision and vitreous opacites. He is a diabetic patient. we the docter examin him By opthalmoscop (direct) See Black reflex → vitreous hemorrhage.
* 30 Y.O Female, complicaning of Gradual painless loss of vision, Headache, projectile vomiting and Bilateral optic disc swelling → papilloedemes.
* obese 29 Y.O Female, complicaning of Gradual painless loss of vision, Headach, Projectil vomiting and ↑ intra cranial hypertension → Pseudo tumor cerebri ((Benign intracranial hypertension)) → Papilloedema
* 50 Y.O Male, complicaning of headach & eyeach, early Presbyopia, Blurring of vision filed loss Gradually in the late stage → POAG

Note:- Tubular field or vision

1. Retinitis pigmentosa 2. POAG 3. PRP ((Pan Retinal photocoagulation))
4. When CRAO have Cilioretinal arteries that spare macular retina.

CamScanner

Reem Abdulmajeed Alyousefi

* Systemic diseases

① Thyroid eye disease (TED).

* The most common ocular feature of TED :-

① Axial exophthalmos

② Lid sign
- Lid retraction ((Dalrymple sign))
- Lid Lag ((von graef's sign"
- Infrequent Blinking "Stellwag's sign"
- Staring & Frightened apperance "Leocher sign"
- Reducing of convergence "Mobius sign".

③ Restrictive myopathy
- ophthalmoplegia
- Diplopia

④ Optic Neuropathy
- RAPD
- impairment of color vision
- Slight loss of visual acuity

② VOGT - KOYANGI - HARADA Syndrom :-

* Case :-

40 Y.O Female, complaining of deafness, vitiligo, alopecia, poliosis and Pan uveitis.

⇒ Ocular Feature of VKH syndrom :-
① Pan Uveitis ② Exudative choroiditis.
③ Exudative RD
Bilateral & the Ant. Uveitis is granulomatous.

③ S. jögren syndrome :-

Case :-

35 Y.O Female, complaining of xerophthalmia (dry eye), xerostomia (dry mouth) and pain in her proximal phalangeal joint.

⇒ S. jogren syndrom
- Primary :- dry eye & dry mouth
- Secondy :- Primary & associated with connective tissue disorder ex ↳ Rheumatoid arthritis, ↳ SLE

* Treatment :-
Systemic Steroid & cytotoxic agent.

CamScanner

Reem
Abdulmajeed
Alyousefi

④ Myasthenia gravis :—

Case :-

24 Y.O Female, complaining of Bilateral Periodic ptosis, diplopia, Fatigue and Tensilon test is +ve.

* Ocular manifestation of myasthenia gravis are :-
  ① Periodic ptosis ② diplopia ③ Failure of convergence
* Treatment :- Prostigmin, Neostigmine.

⑤ Reiter's Syndrom "Reactive arthritis"

* More common In male
* associated with infection of → Chlamydia, Salmonella, Shigella.
* Triad of "RS" ① Arthritis ② Urethritis ③ Conjectivitis or AAU or keratitis.

⑥ Rheumatoid arthritis

* More common in Female
* symmetric of small joint involved the Proximal interphelangeel.
* Ocular Manifestation :-
  ① 2ry S-Jogren Syndrome ② Ulcerative keratitis ③ Scleritis ④ Ant. Uvitis.

⑦ Sarcoidosis

* More common in female
* Ocular feetures :- ① AAU ② CAU ③ Intermediateel Uvitis ③ Pos. Uvitis ④ Disc Swelling ⑤ Neovascularization
  → complication → Cataract, Glaucoma.

CamScanner

Reem
Abdulmajeed
Alyousefi

⑧ Multiple sclerosis MS

* More common in female.
* ophthalmic features :-
  ① optic neuritis ** → usually Retrobulbar.
  ② Ocular Motor nerve palsies & hemianopia.
  ③ intermediate uveitis & Retinal Periphelbeitis.

⑨ Ankylosing spondylitis :-

Case :-
30 Y.O Male, complicating of Backpain (Back stiffness), axial arthritis, aortic regurgitation, kyphosis and Uveitis.

* ophthalmic features :-
  AAU.

⑩ Behcet Syndrome :-

⇒ Triad of (Bs) are :-
① oral ulceration
② Genital ulceration
③ Uveitis.

case :- 35 Y.O Male, complicating of oral ulcer, +ve pathergy test and Recurrent acute anterior non-granulomatous Uveitis with hypopyon. **

* ophthalmic features :-
① AAU, Bilateral and associated with hypopyo
② Retinitis ③ Retinal vasculitis ④ vitritis.
⑤ other manifestation → conjunctivae.
→ episcleritis
→ scleritis
→ ophthalmoplegia.

CamScanner

Reem
Abdulmajeed
alyousefi

Community Medicine of ophthalmology

* Common Causes of Blindness In Yemen:-

1. cataract
2. Glucoma
3. Diabetic Retinopathy
4. corneal opacity
5. Age related macular degeneration
6. vit. A deficiency.

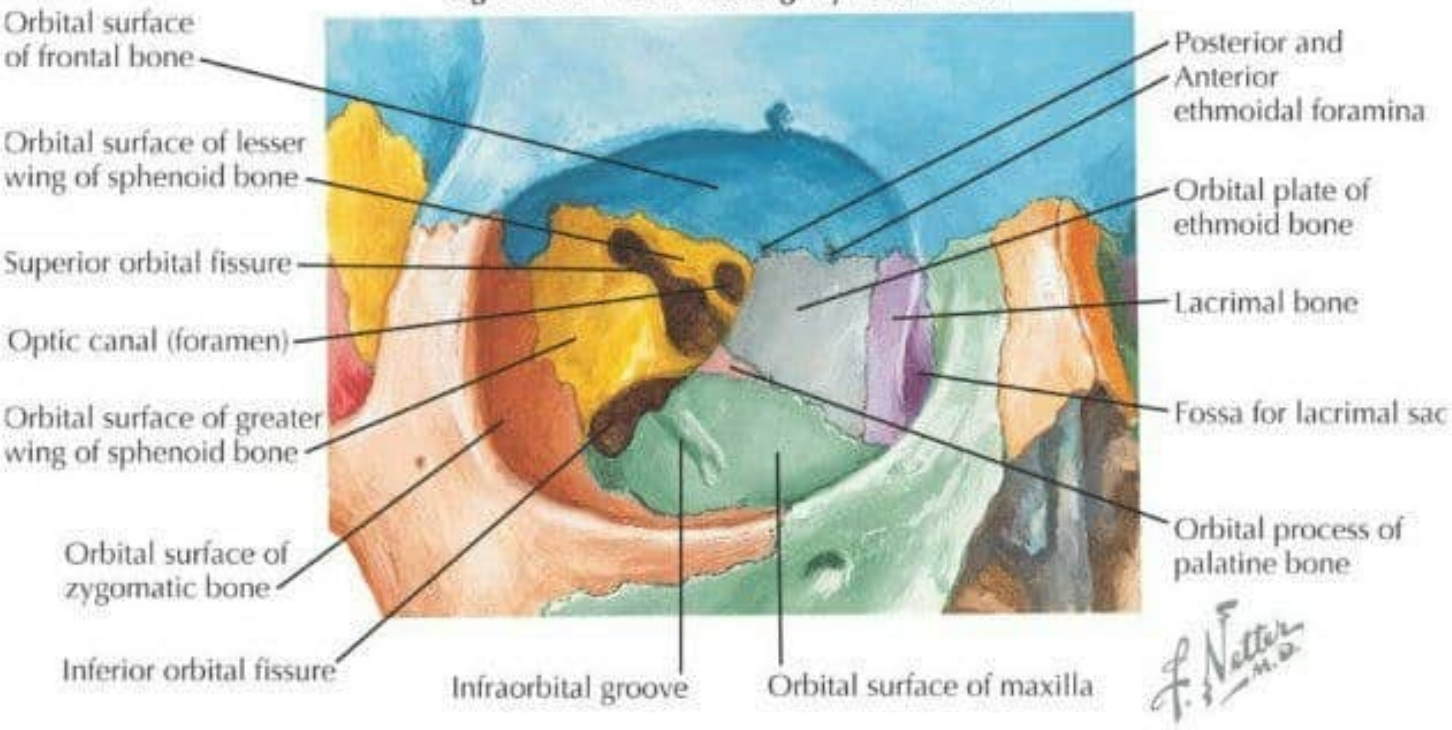
7 - Trachoma

7

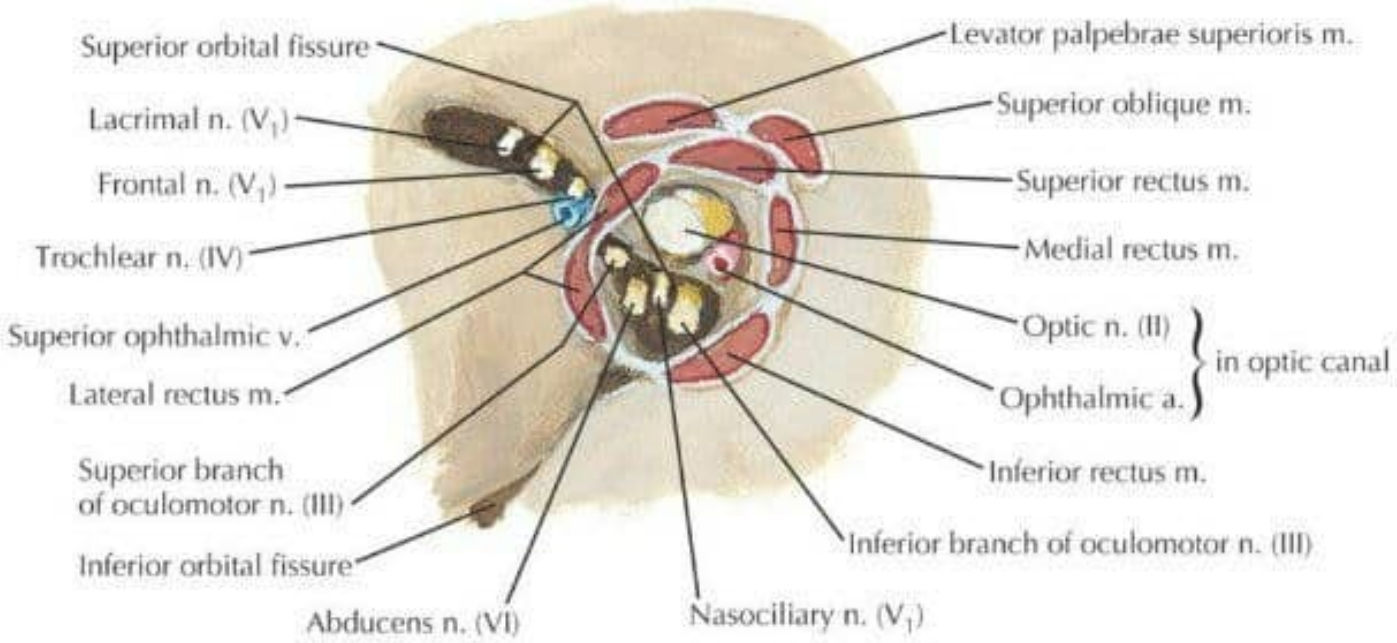
the orbit

الممسوحة ضوئيا بـ CamScanner

Right orbit: frontal and slightly lateral view

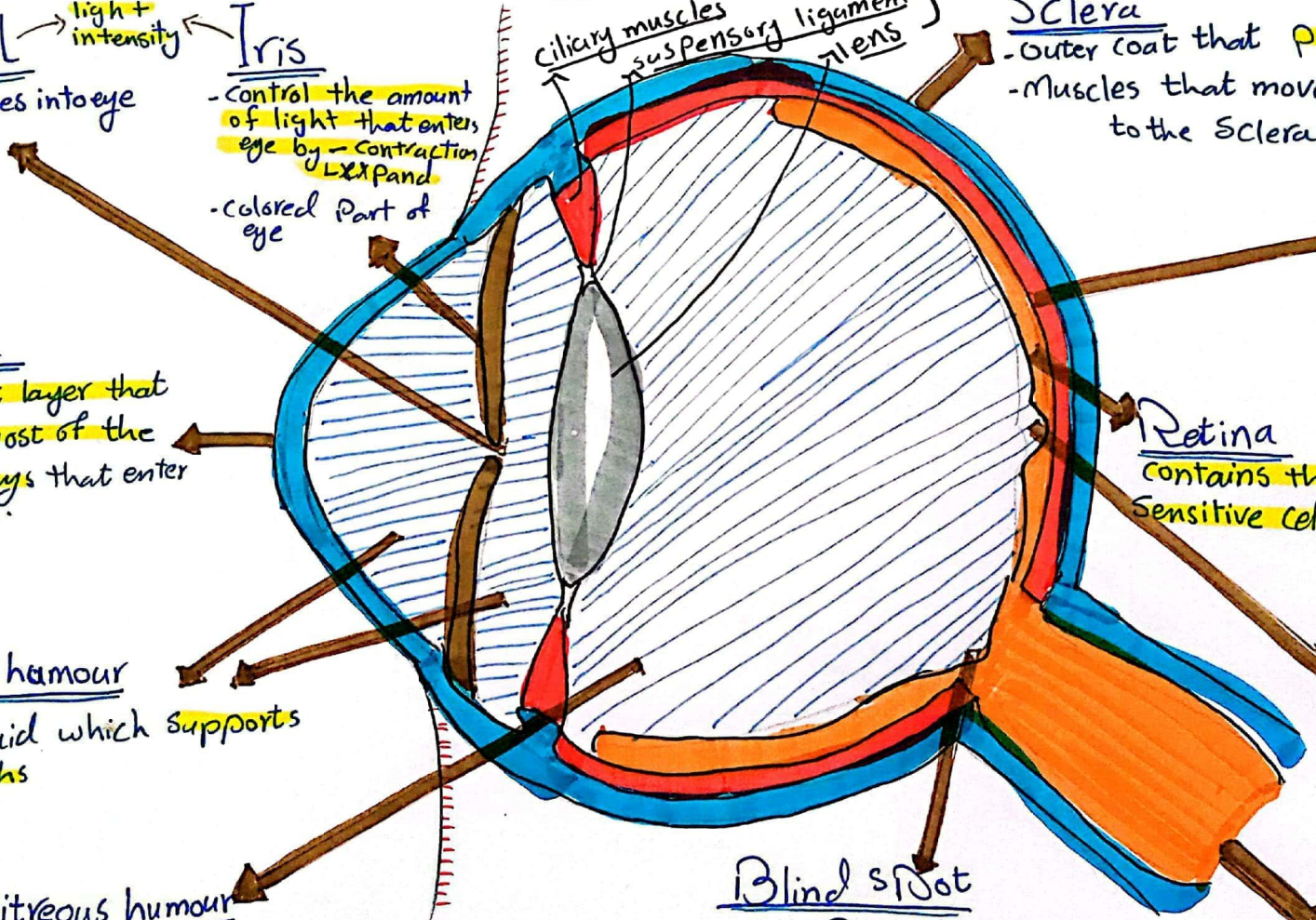

Orbital surface of frontal bone
Orbital surface of lesser wing of sphenoid bone
Superior orbital fissure
Optic canal (foramen)
Orbital surface of greater wing of sphenoid bone
Orbital surface of zygomatic bone
Inferior orbital fissure
Infraorbital groove
Orbital surface of maxilla
Posterior and Anterior ethmoidal foramina
Orbital plate of ethmoid bone
Lacrimal bone
Fossa for lacrimal sac
Orbital process of palatine bone
F. Netter M.D.

Muscle attachments and nerves and vessels entering orbit



الممسوحة ضوئيا بـ CamScanner

The eye ...



Control light focusing on retina

Pupil
light goes into eye

Control light + intensity

Iris
- control the amount of light that enters eye by — contraction / expand
- colored part of eye

Sclera
- Outer coat that protects eye from damage
- Muscles that move the eye are connected to the Sclera.

Choroid
- Dark layer that reduces refrections inside the eye and ..
- contains blood ~~supply~~ vessels to help nourish the retina.

Cornea
Transparent layer that refracts most of the light rays that enter the eye.

Retina
contains the light Sensitive cells, rods + cones

Aqueous humour
watery fluid which supports and nurishs

Yellow Spot [Fovea]
- area has the highest densit of cones
- offers maximum sharpness
- works at full efficiency in bright light.

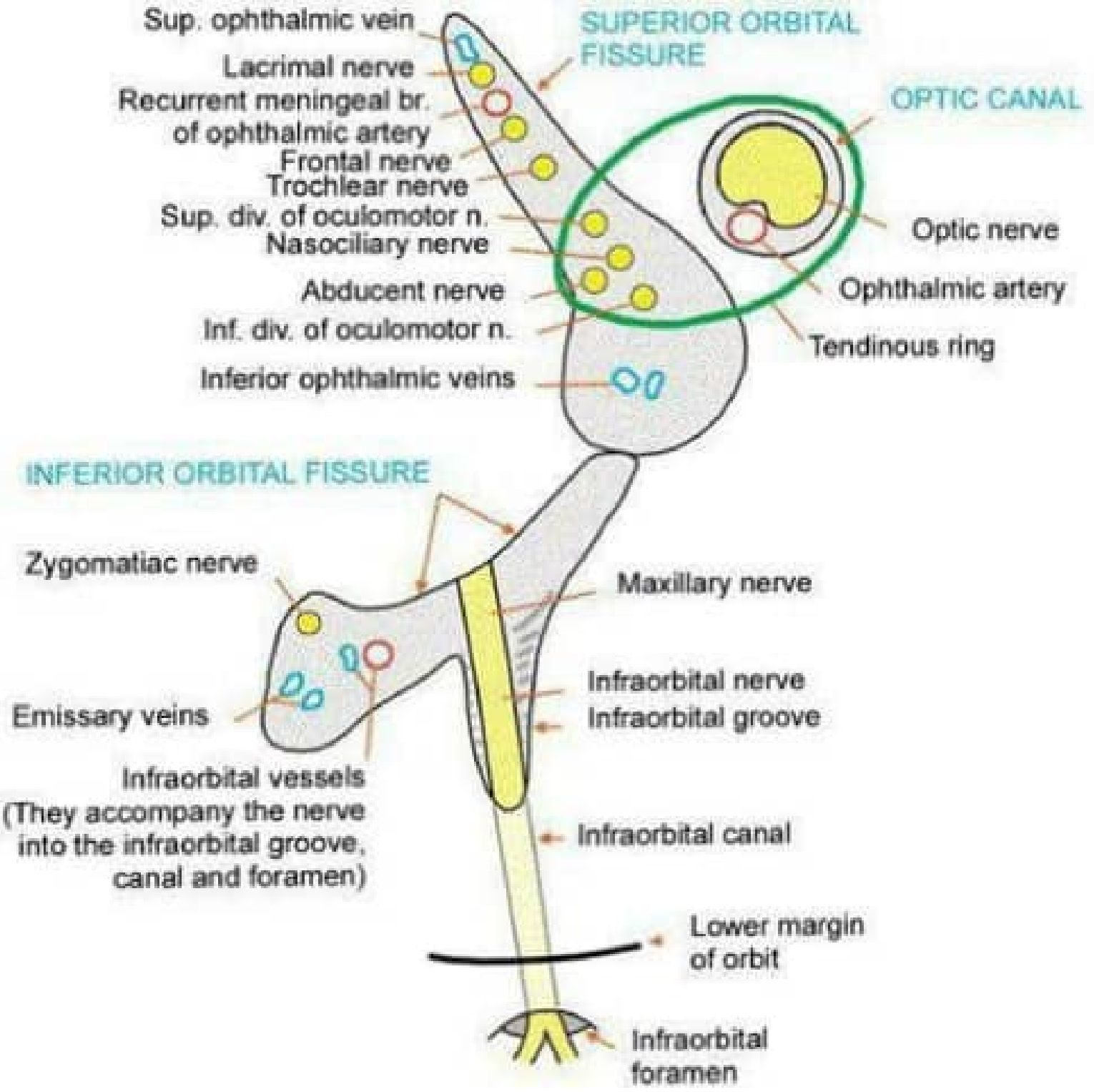
Vitreous humour
- jelly like substance which helps ~~suppor~~ keep shape of eyeball
- supports lens and keeps retina in place

Blind spot
- exit Point of optic nerve
- No light sensitive cells here So light falling here cannot be detected.

Optic nerve
- composed of sensory neurons that corry nerve impulses to the visual cortex

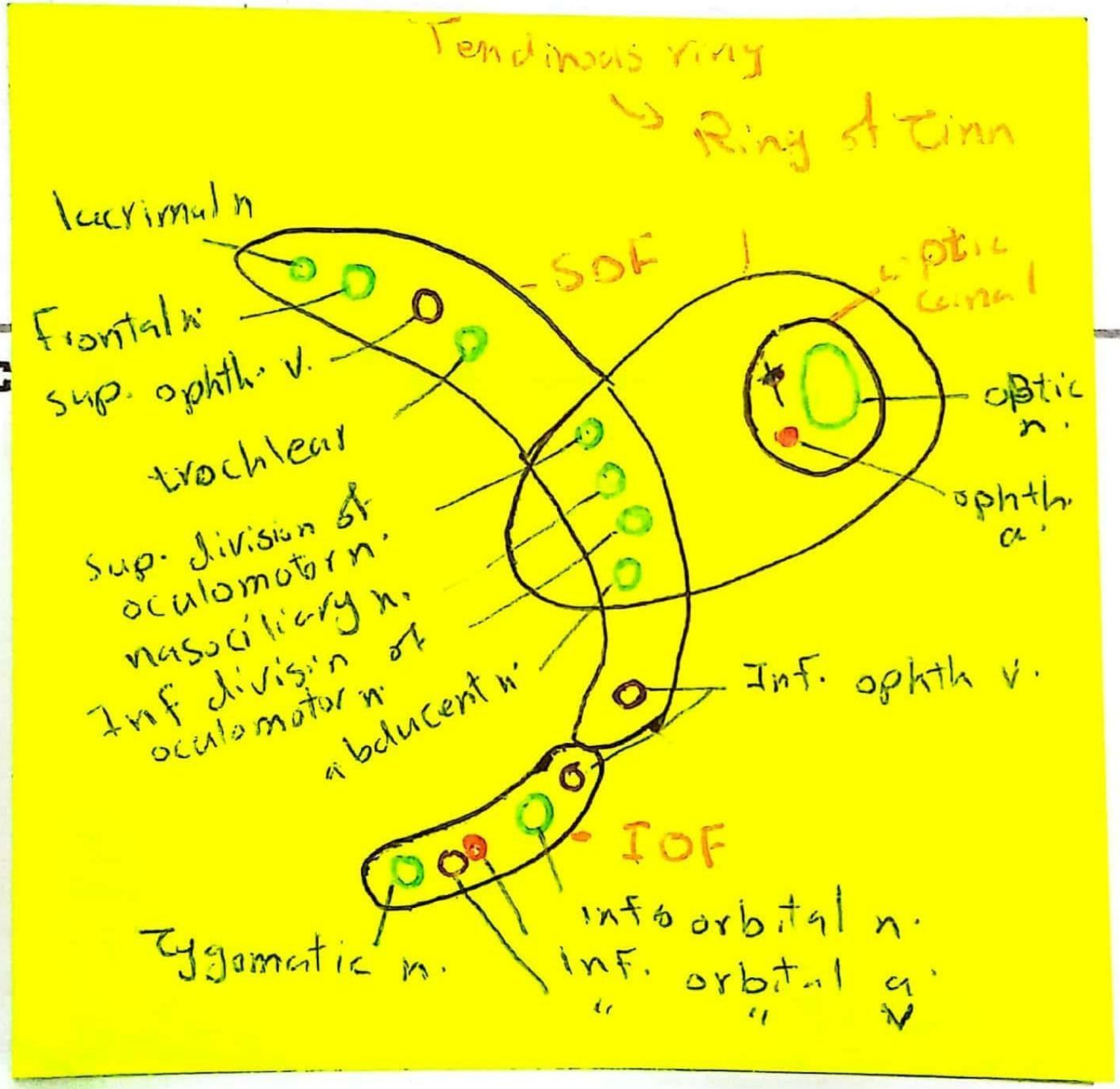
Hind Adel

CamScanner الممسوحة ضوئيا بـ



الممسوحة ضوئيا بـ CamScanner

Fac


Tendinous ring
Ring of Zinn
lacrimal n
Frontal n
sup. ophth. v.
trochlear
sup. division of oculomotor n.
nasociliary n.
Inf division of oculomotor n
abducent n
SOF
optic canal
optic n.
ophth a.
Inf. ophth v.
IOF
infraorbital n.
Inf. orbital a.
"
"
v
Zygomatic n.

*Structures Pass through Superior orbital fissure:-

above ring of Zinn

1- Lacrimal nerve.
2- Frontal nerve.
3- Superior ophthalmic vien
4- Trocheolar nerve.

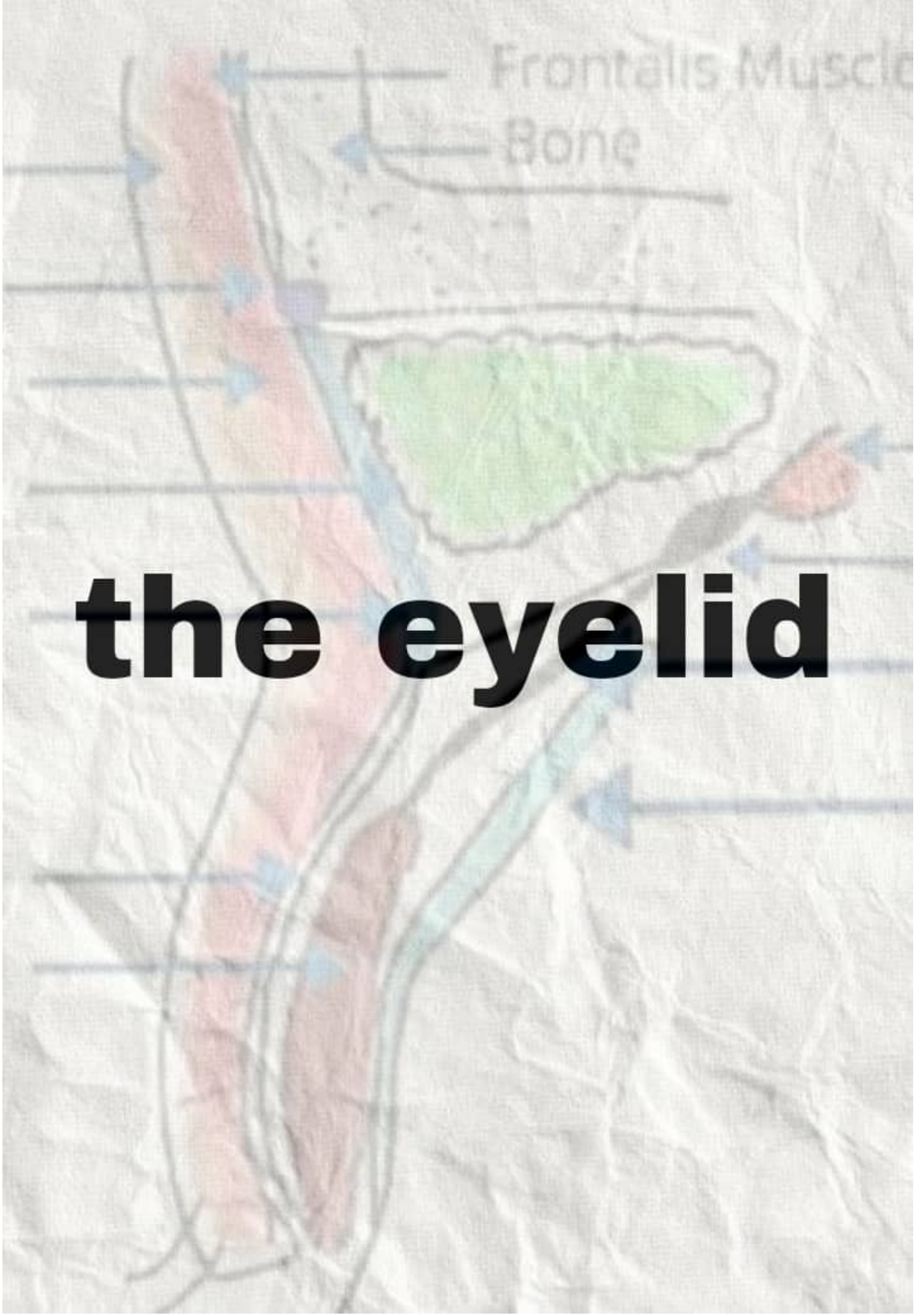
through ring of Zinn

5- Superior division of oculomotor nerve
6- Nasociliary nerve.
7- inferior division of oculomotor
8- abducant nerve.

below

9- Inferior orbital vein.

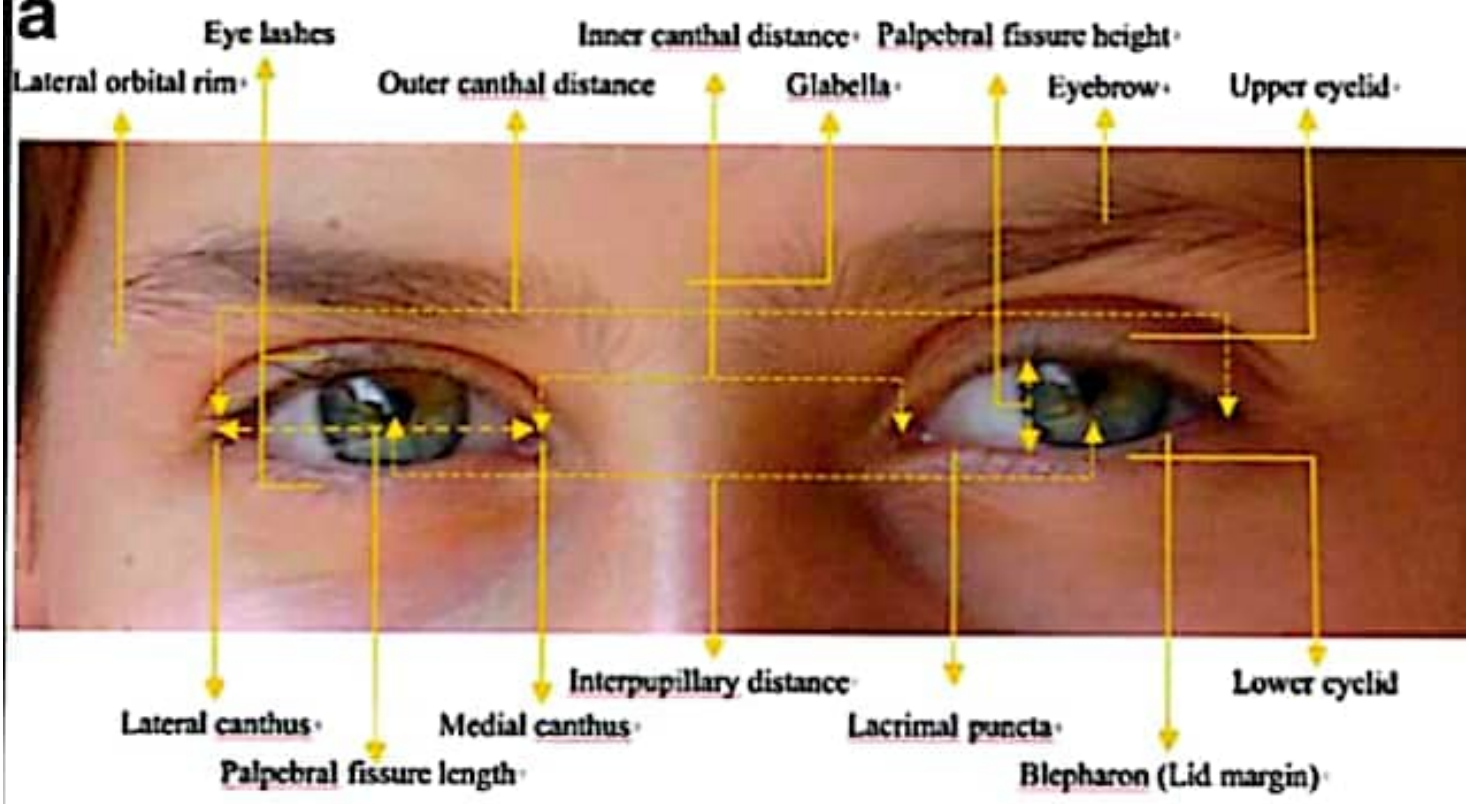
الممسوحة ضوئيا بـ CamScanner



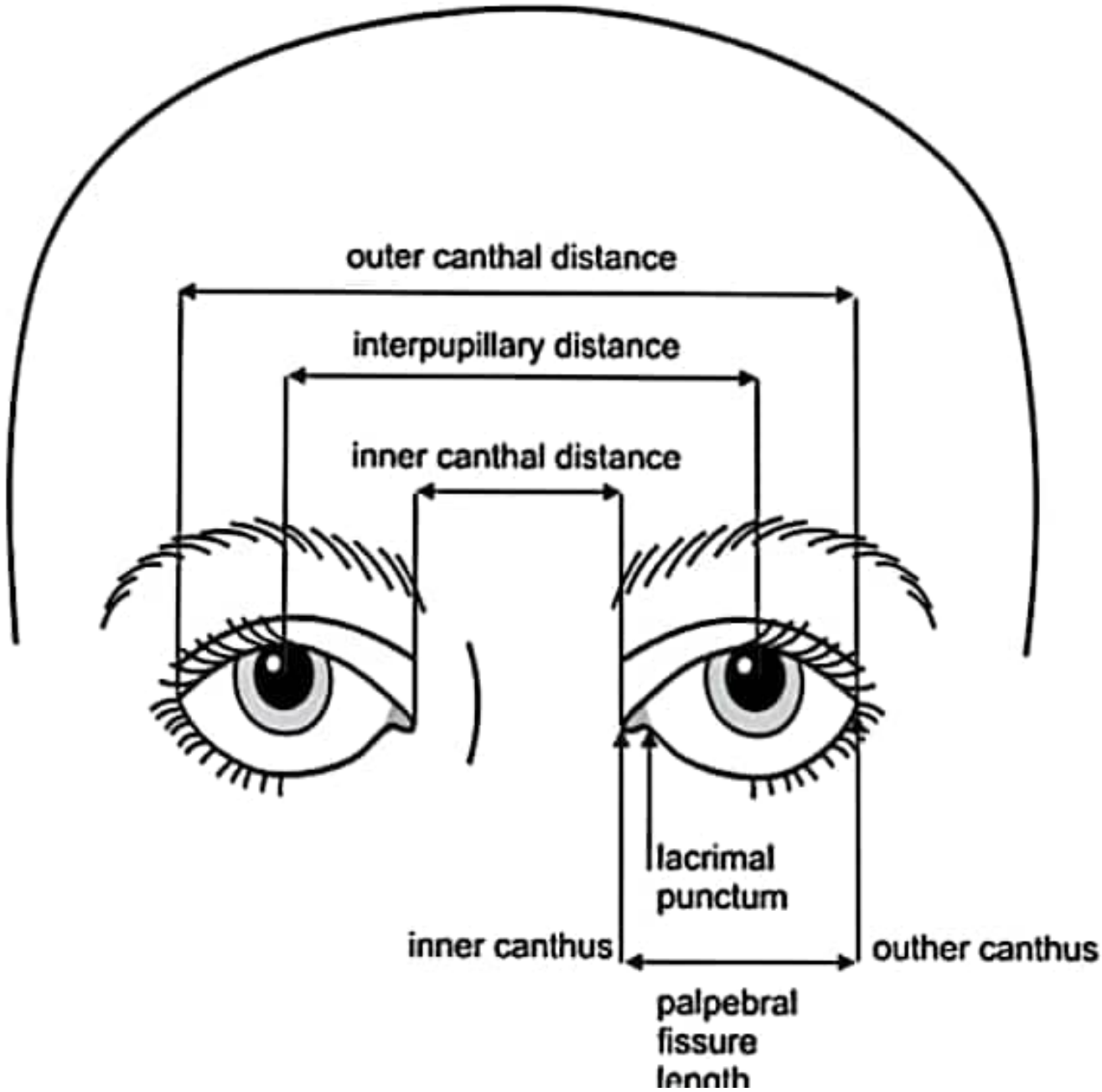
the eyelid

الممسوحة ضوئيا بـ CamScanner

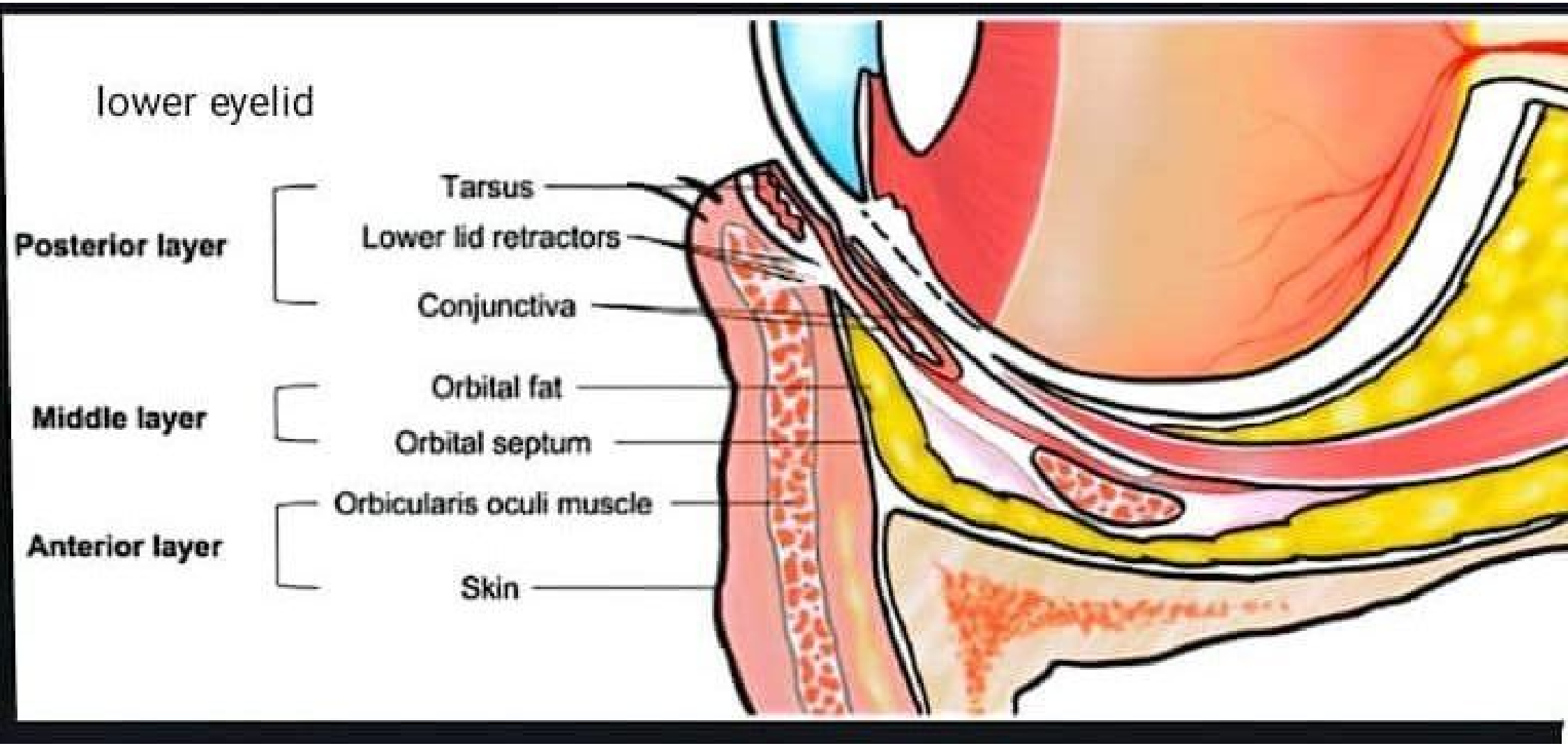
a



b



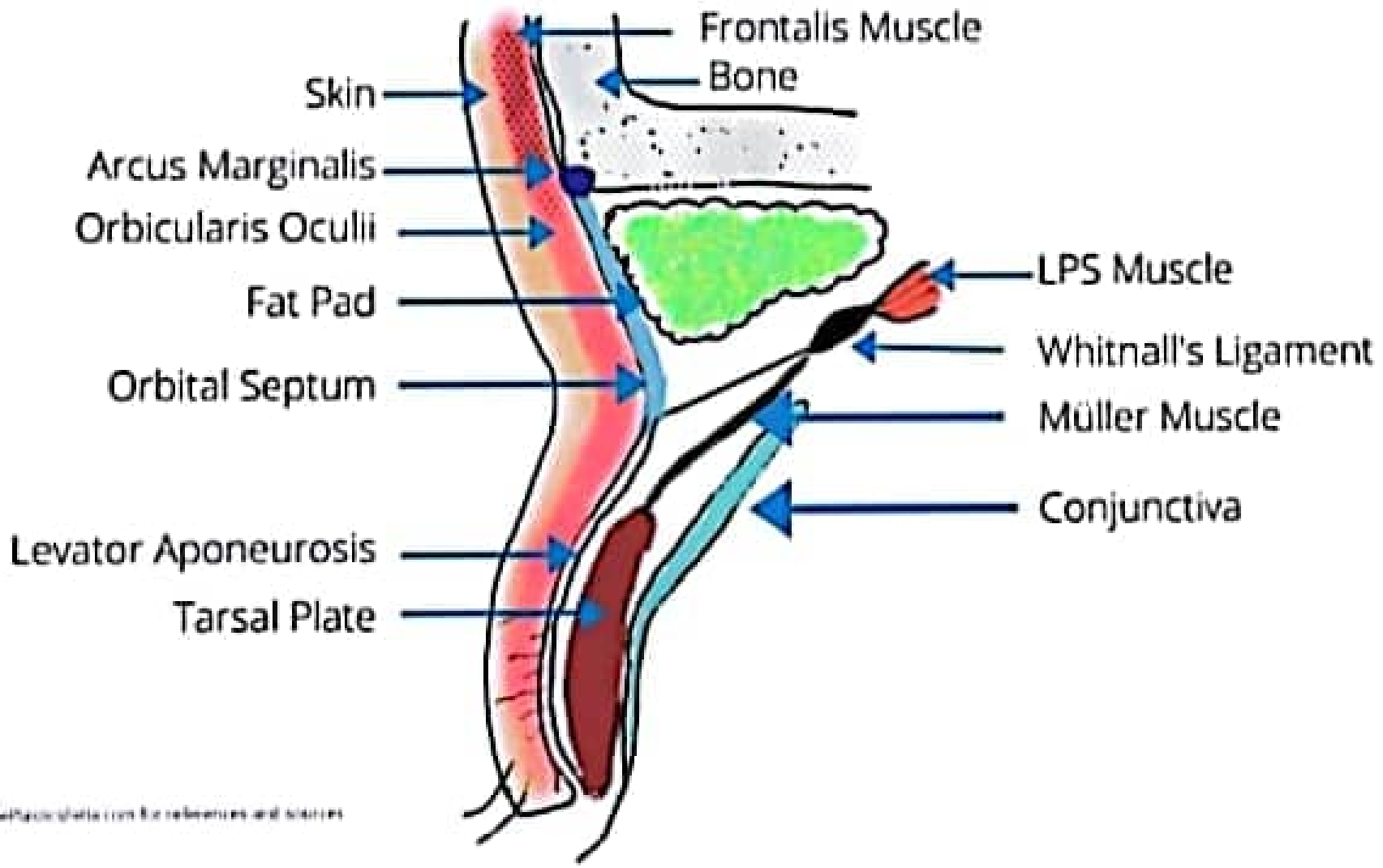
الممسوحة ضوئيا بـ CamScanner



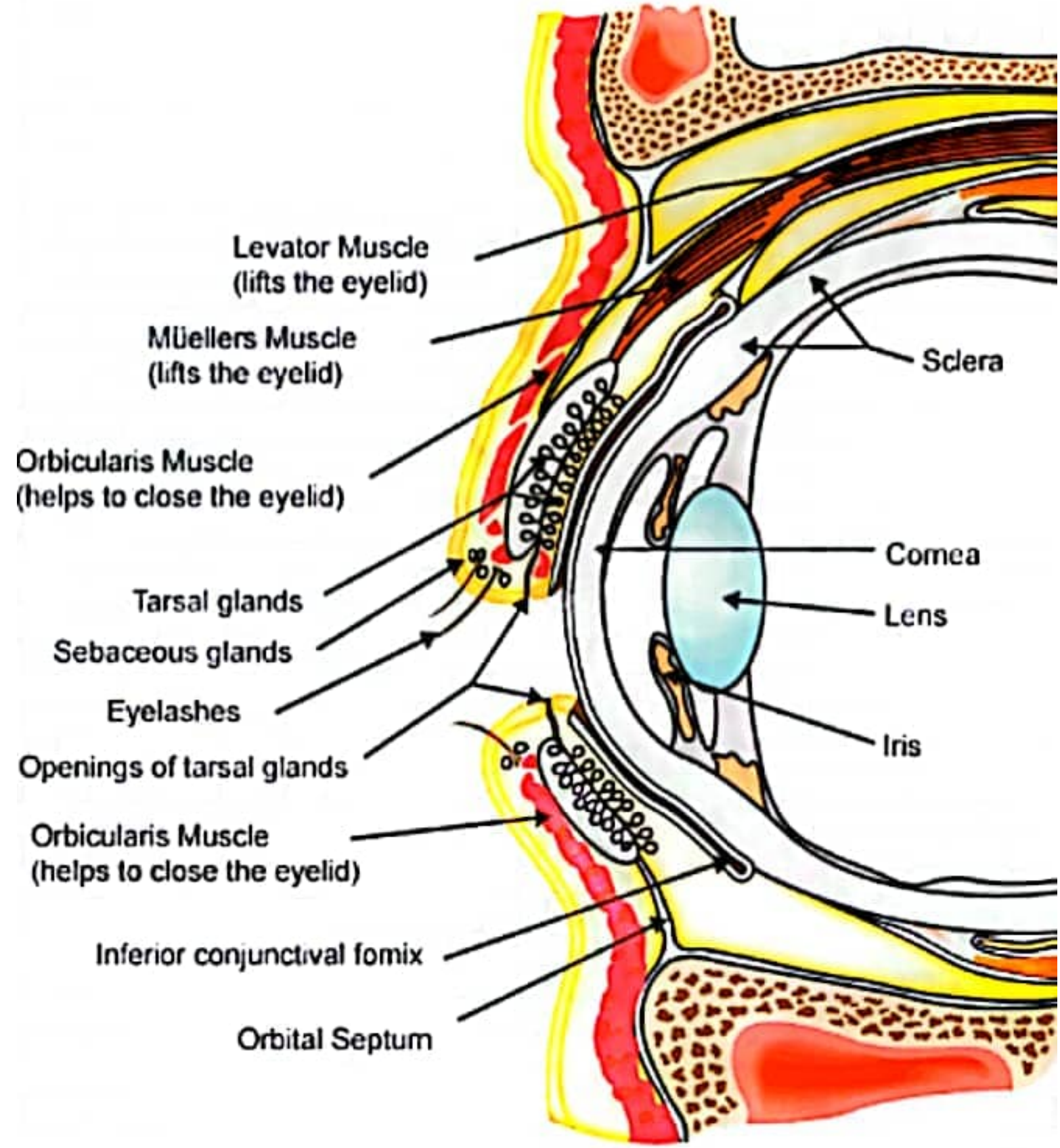
الممسوحة ضوئيا بـ CamScanner

UPPER EYELID ANATOMY

THEPLASTICSFELLA.COM



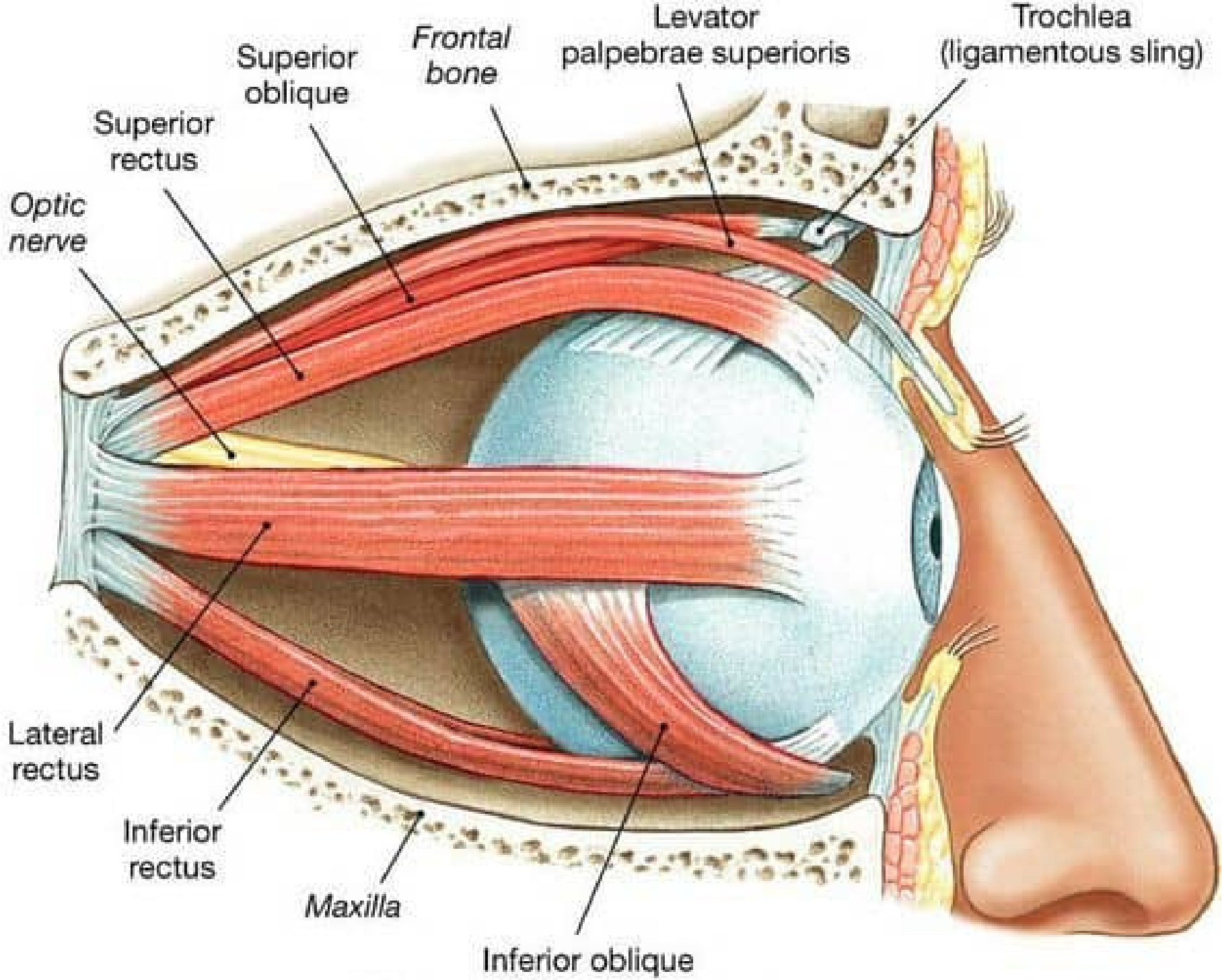
الممسوحة ضوئيا بـ CamScanner



الممسوحة ضوئيا بـ CamScanner

the extra_ocula muscles

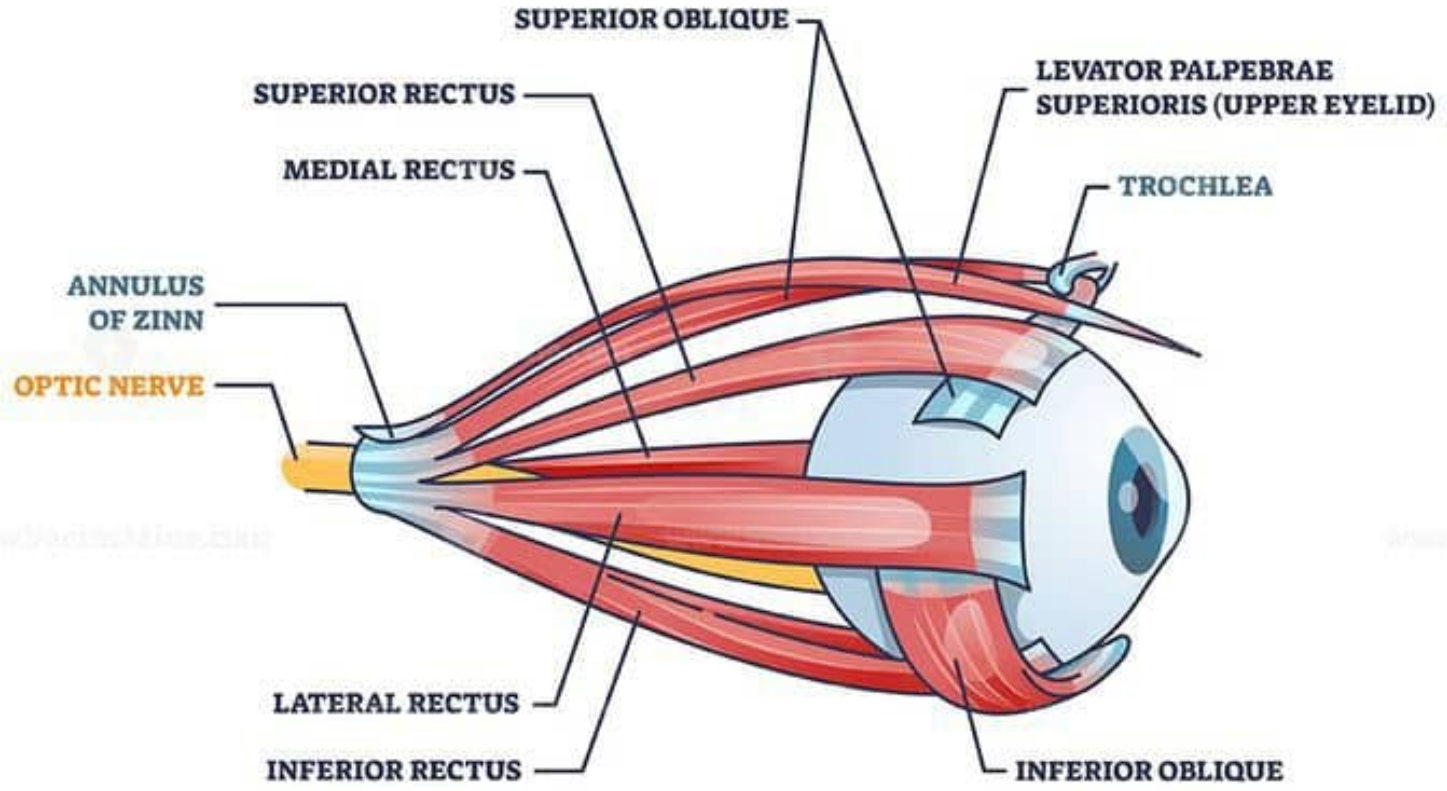
الممسوحة ضوئيا بـ CamScanner



(a) Lateral surface, right eye

الممسوحة ضوئيا بـ CamScanner

EXTRAOCULAR MUSCLES OF THE HUMAN EYE

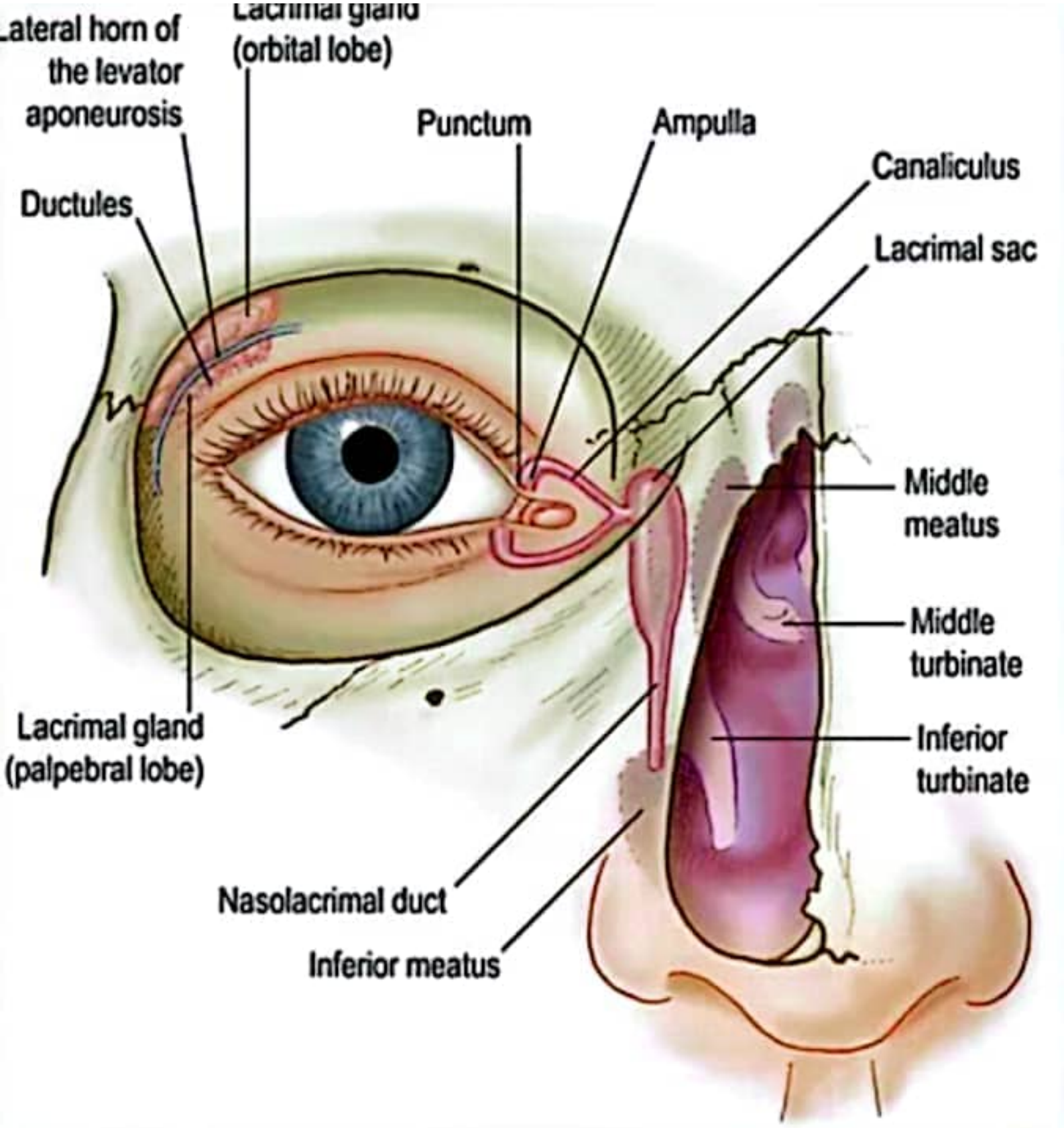


RIGHT EYE (LATERAL VIEW)

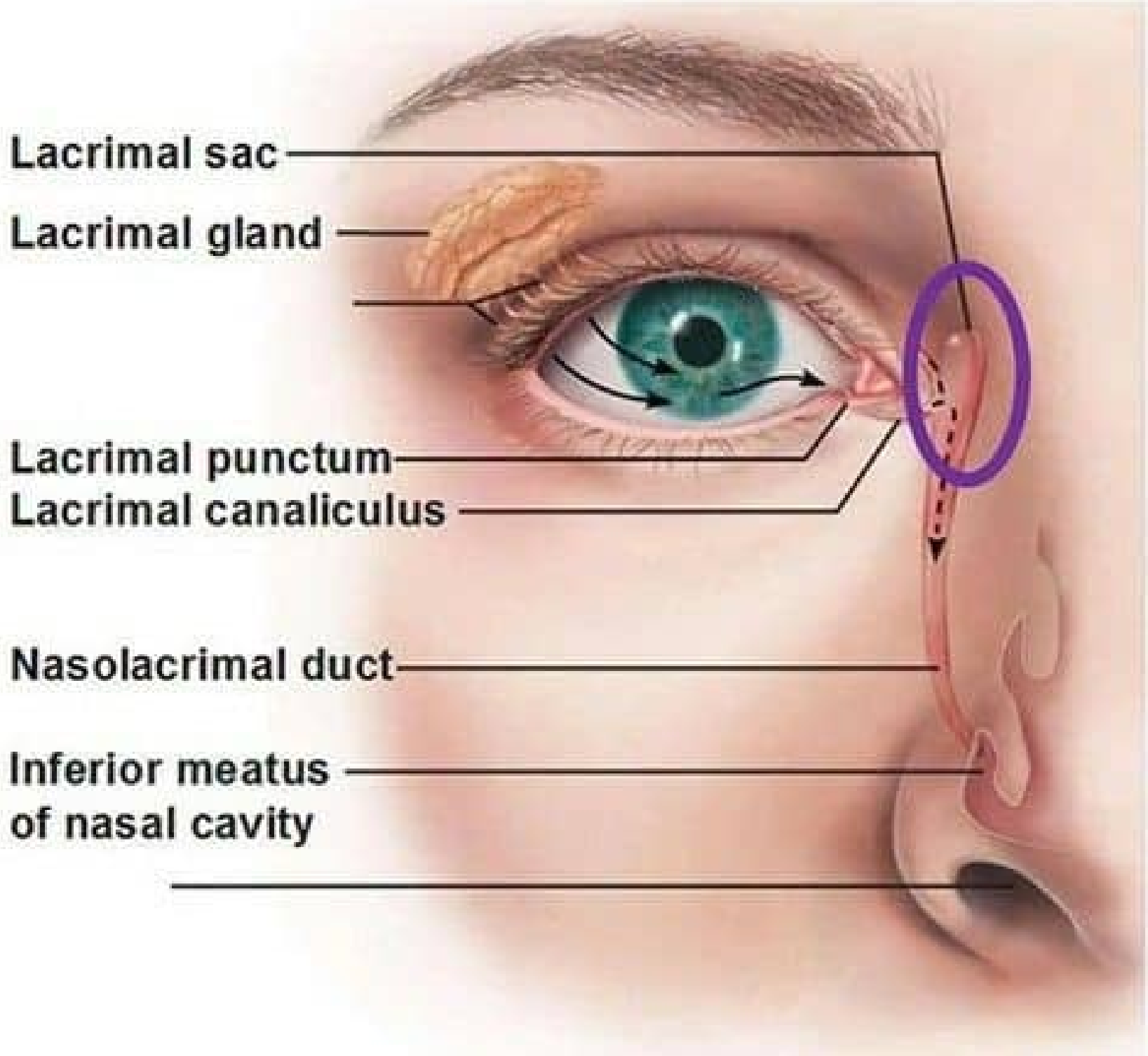
الممسوحة ضوئيا بـ CamScanner

the lacrimal system

الممسوحة ضوئيا بـ CamScanner



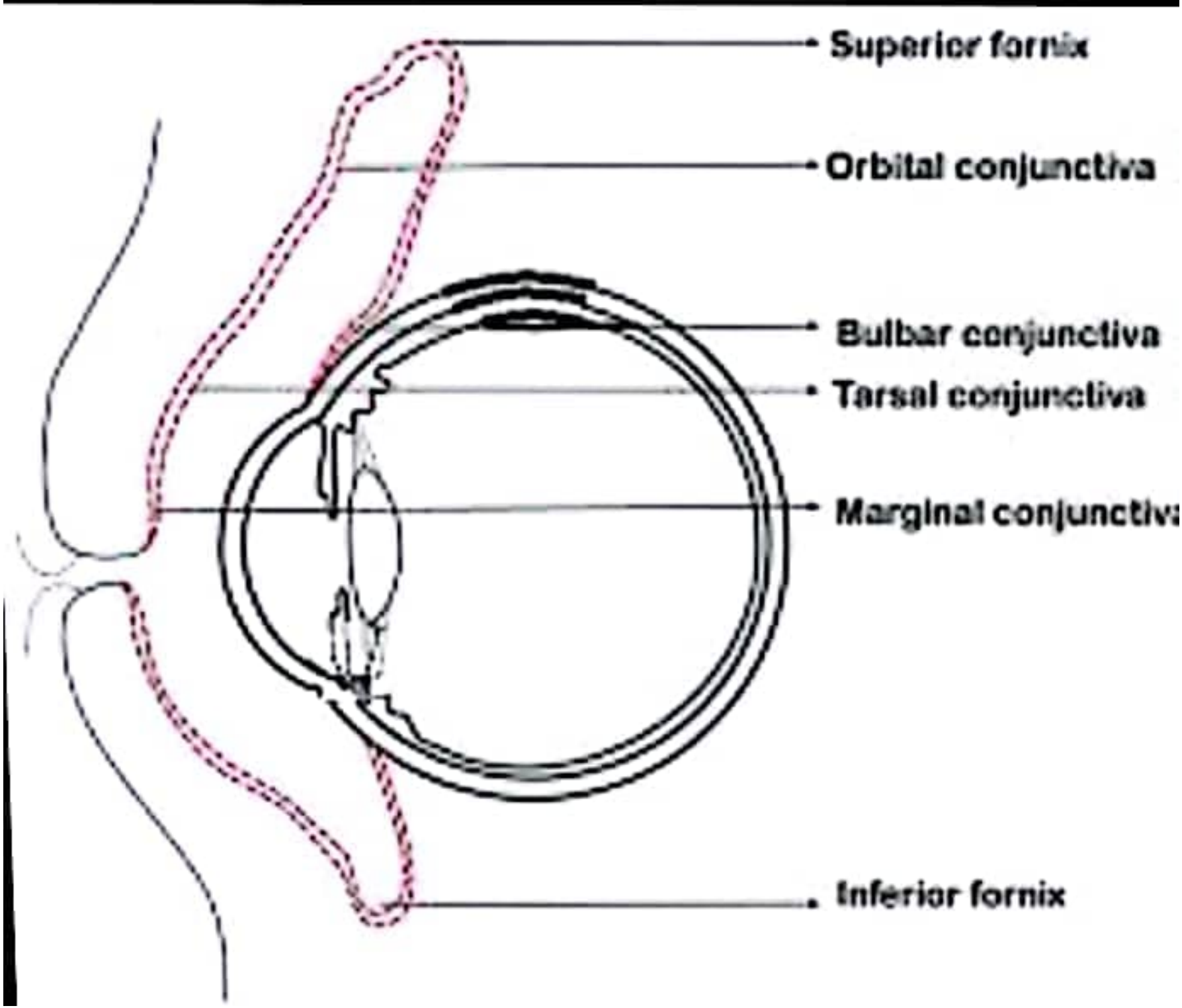
الممسوحة ضوئيا بـ CamScanner



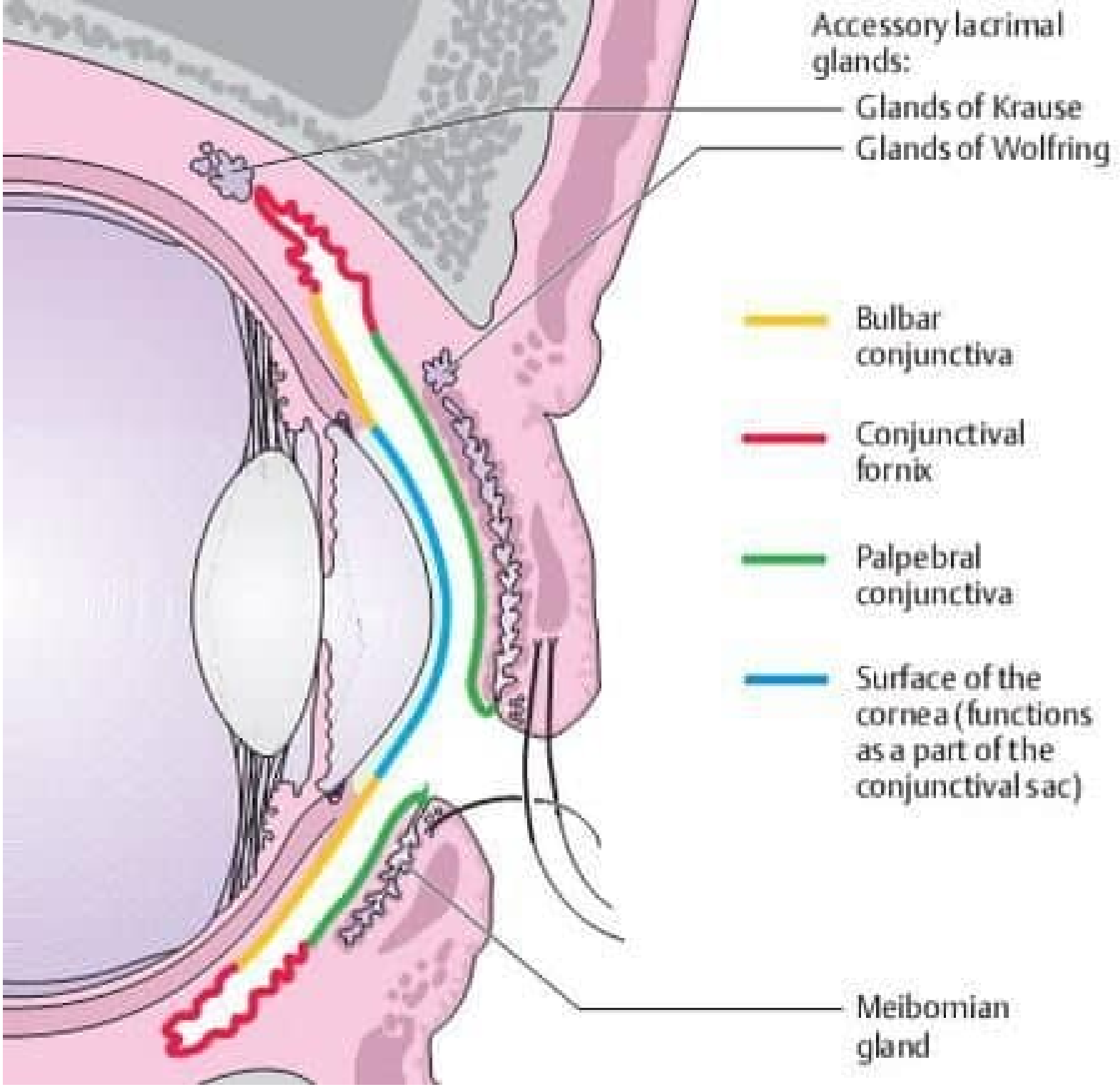
الممسوحة ضوئيا بـ CamScanner

the conjuncti va

الممسوحة ضوئيا بـ CamScanner



الممسوحة ضوئيا بـ CamScanner

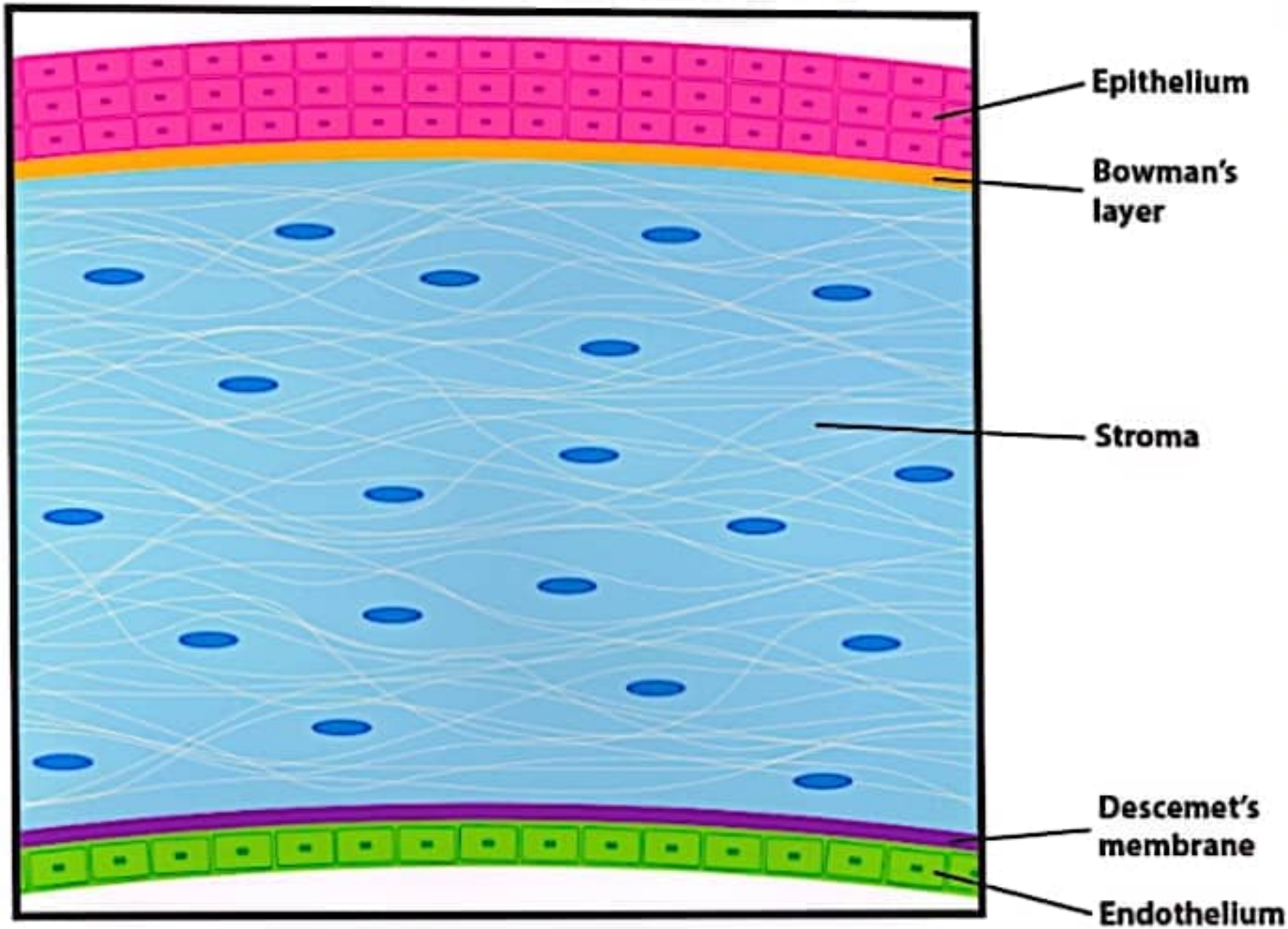


الممسوحة ضوئيا بـ CamScanner

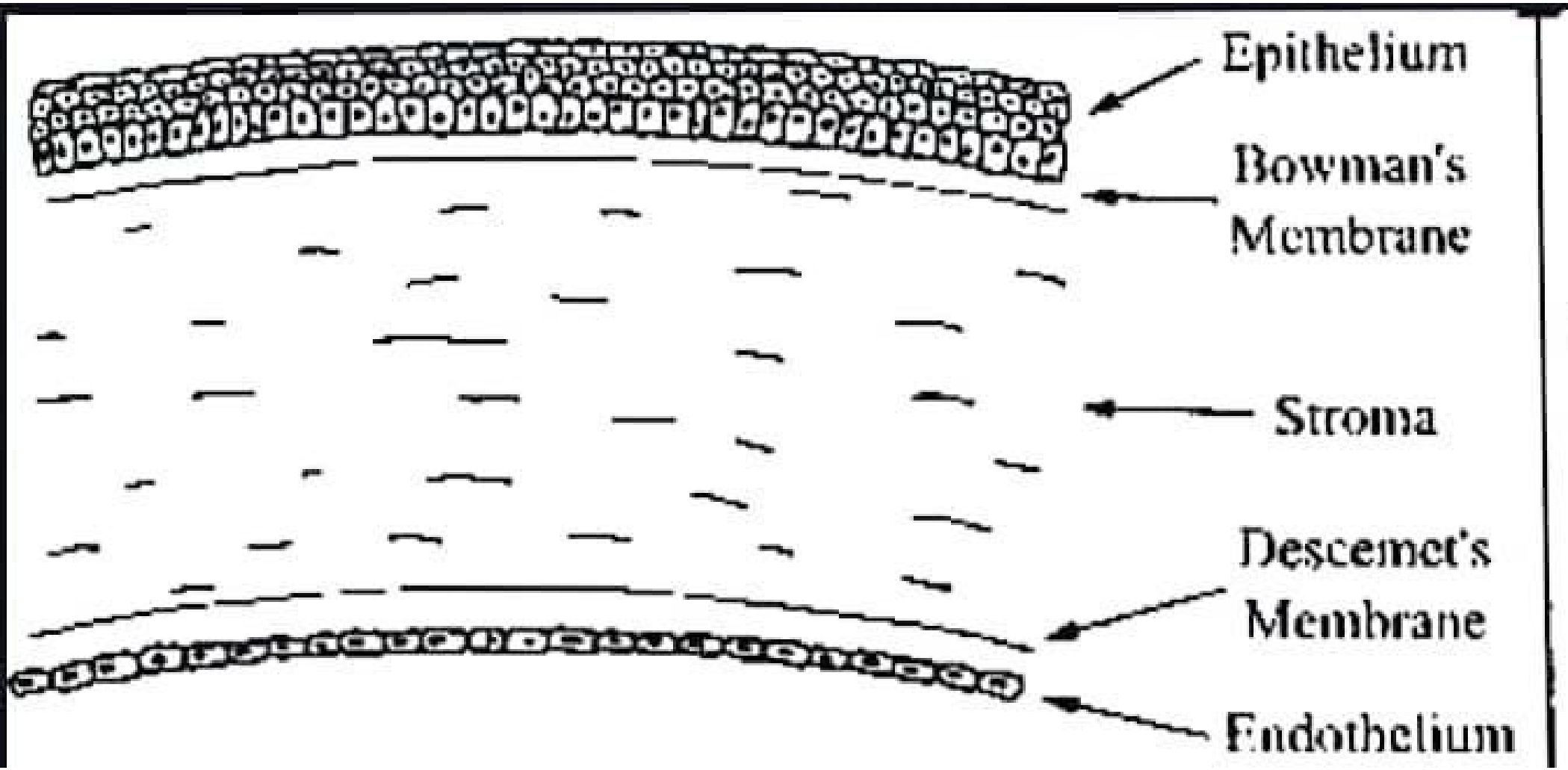
the cornea

الممسوحة ضوئيا بـ CamScanner

Layers of the cornea

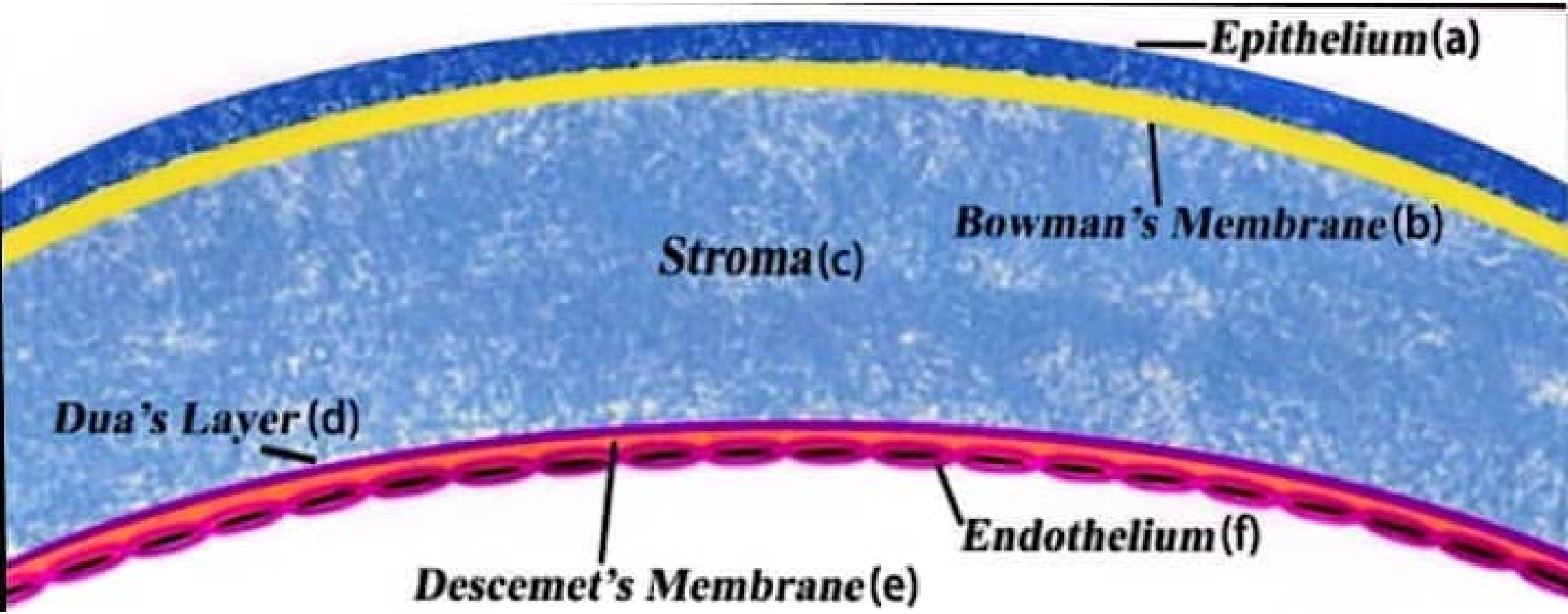


الممسوحة ضوئيا بـ CamScanner



120
μm

الممسوحة ضوئيا بـ CamScanner



الممسوحة ضوئيا بـ CamScanner

neurology

الممسوحة ضوئيا بـ CamScanner

parts of obtic nerve

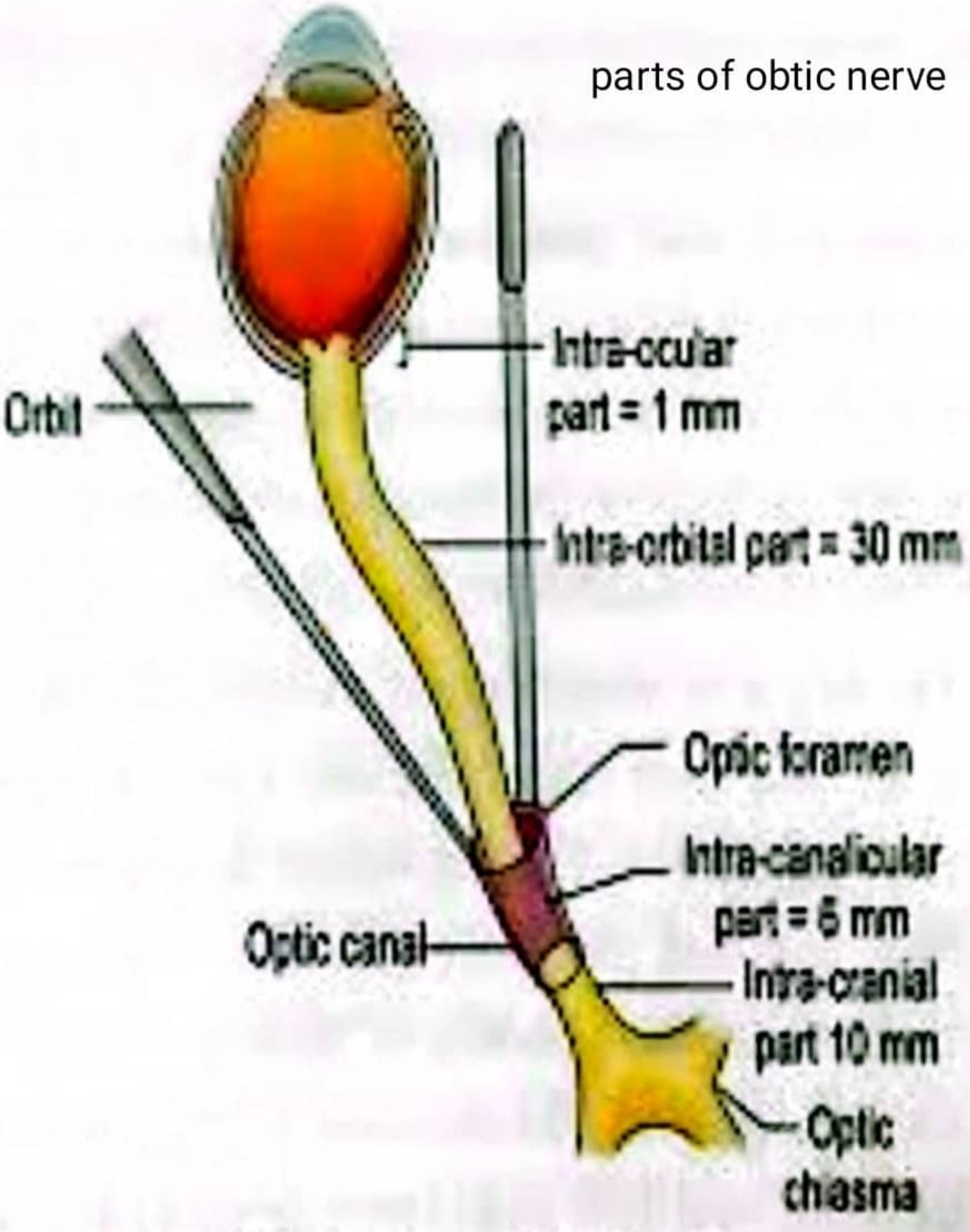


Fig. 16.5.4: Various parts of the optic nerve

الممسوحة ضوئيا بـ CamScanner

VISION

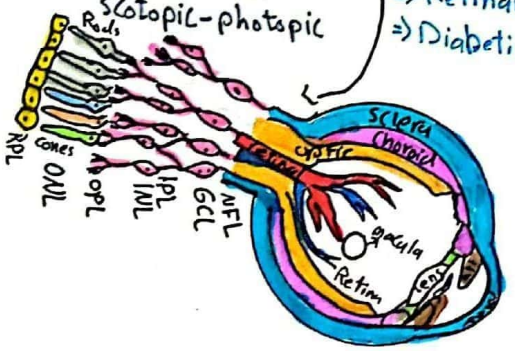
Normal pupil:- CRRR
Central - round - regular
reactive to light.

Retina:-

- Receives light the lens has focused, converts it into neural signals and sends them to brain for visual recognition.
- layers:-
  - Photoreceptor.
  - Bipolar.
  - Ganglion cell.

  ] more detailed in pic

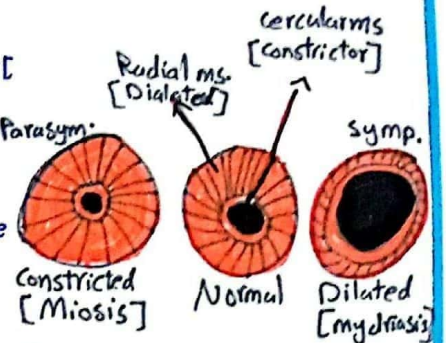
- Cells:- Rods - Cones
  scotopic - photopic



⇒ Retinitis pigmentosa.
⇒ Retinitis.
⇒ Retinal detachment.
⇒ Diabetic retinopathy.

Pupil:-

- iris controls size
- Light → both constrict
  - illuminated eye ⇒ Direct respons
  - opposite eye ⇒ consensual response

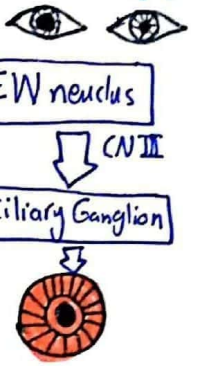


Miosis [Bright Light]

1st neuron Edinger westphal → ciliary ganglion via CN III
2nd neuron synapse with short ciliary nerves at ganglion to signal sphincter Pupile ⇒ constriction

⇒ ADIE'S TONIC Pupil
- Blocks parasympathetic
- Dilated Pupil

EW neuclus
↓ CN III
Ciliary Ganglion
↓



mydriasis [Dim light].

1st neuron:- hypothalmus → spinal cord.
2nd neuron:- spinal cord → superior cervical ganglion →
3rd neuron:- SCG → Dilator ms. → Dilation

⇒ Horner syndrome:-
- ptosis [Partial]
- Anhydrosis
- constricted Pupil
- Heterochromia
- enophthalmus

hypothalamus
↓
spinal cord
↓
Superior cervical ganglion
↓

Pupillight Reflex:-

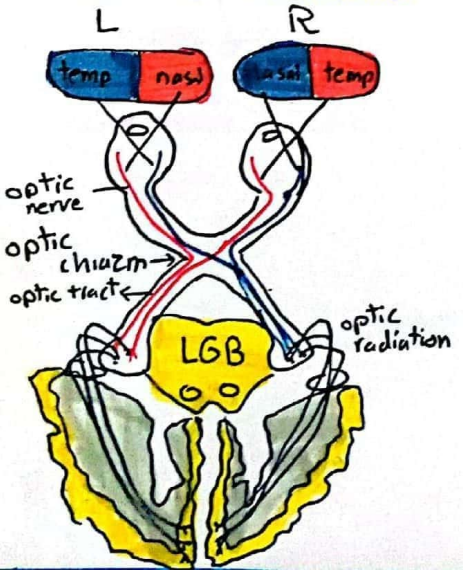
Optic nerve → Chiasm → tract via CN II → LGB → Pretectal area → Bilateral EW → ciliary ganglion → Sphenictor
⇒ Marcus gunn Pupil → RAPD

Pupil Accommodation Reflex:-

optic nerve → Chiasm → tract via CN II → LGB → Radition → visual cortex → Pretectal area → Ciliary ganglion via CN III → Sphinctor. ⇒ Argyll Robertson Pupil

Visual Pathway:-

Optic nerve → optic Chiasm → LGB → optic Radiation → visual Cortex.



Anopia
CN II lesion ipsilateral

optic chiazm lesion
Bitemporal hemianop

optic tract lesion
contralateral Homonomus Hemianopia

Left parital lobe lesion
Right homonomus inferior quadrantanopia

Left temporal lobe lesion
Right homonymus superior quandranopia

Homonymus hemianop sparing macula

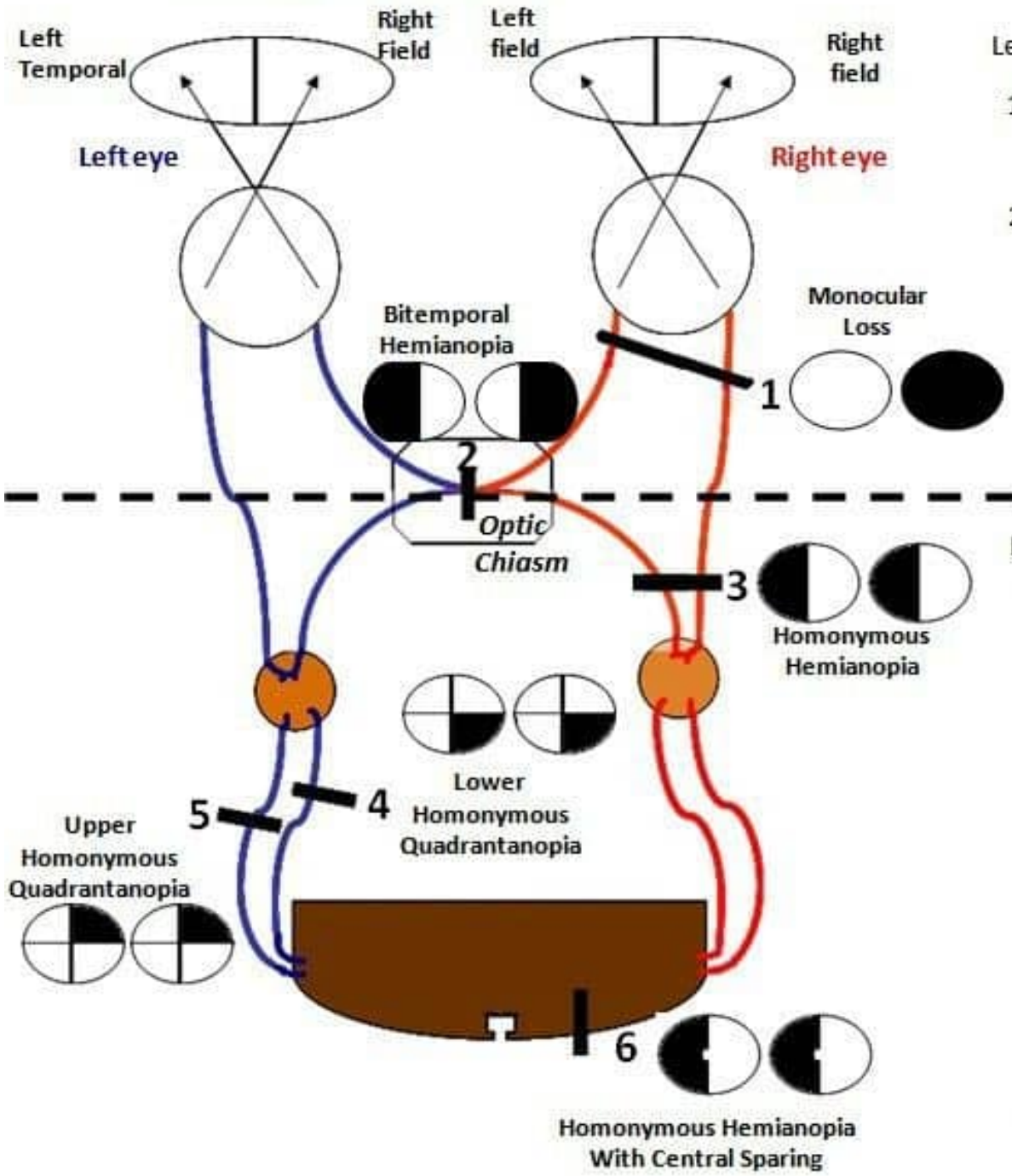
visual scotoma [macular degeneration]

optic neurnis amaurosis fugax

Hind Adel

الممسوحة ضوئيا بـ CamScanner

VISUAL FIELD DEFECTS



Lesion **BEFORE** optic chiasm

1. Monocular visual loss = Lesion at optic nerve

2. Bitemporal Hemianopia= Lesion at optic chiasm

Lesion **AFTER** optic chiasm

3. Homonymous Hemianopia = Lesion at right optic tract

4. Lower Homonymous Quadrantanopia = Lesion at left parietal Radiation

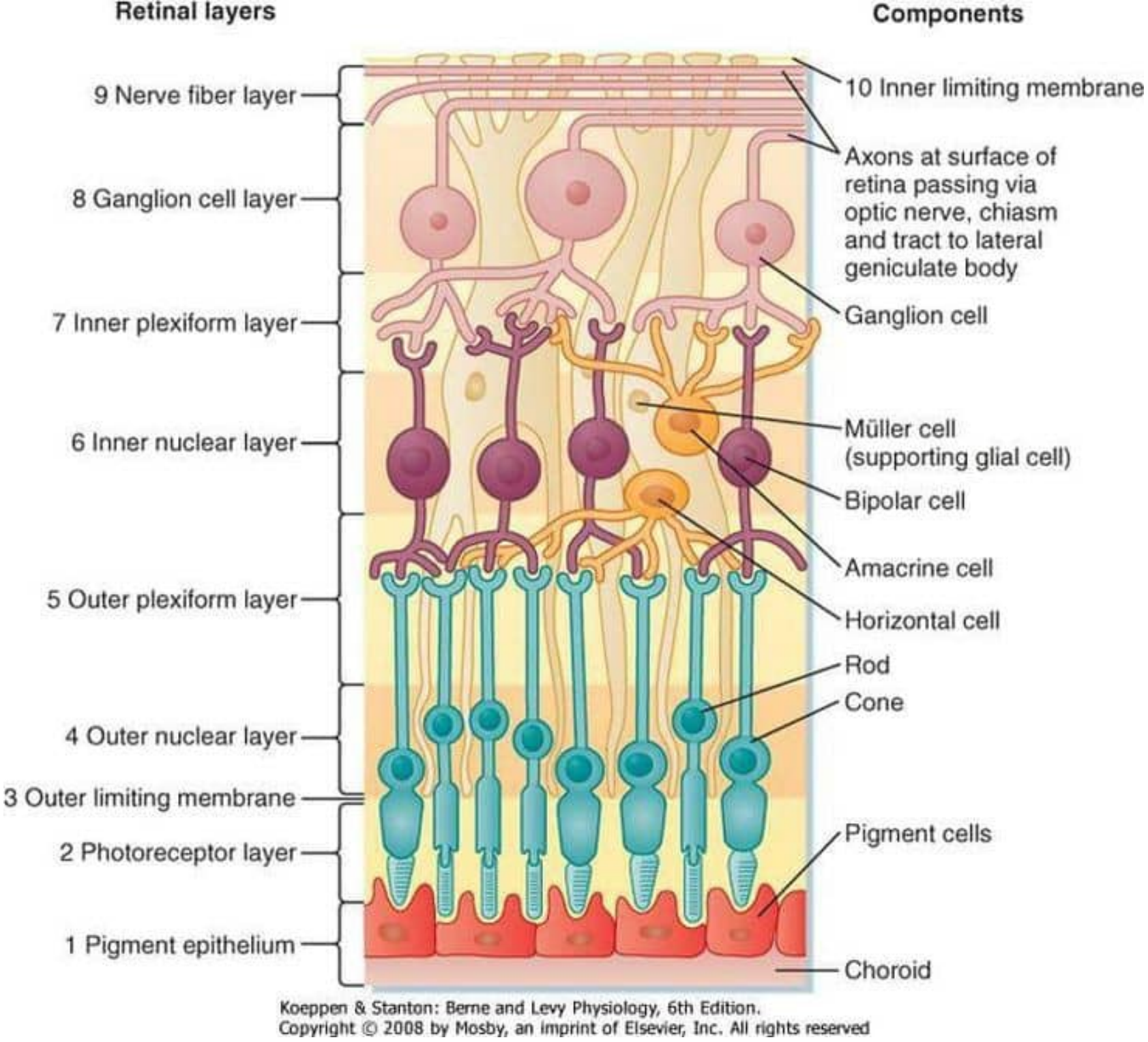
5. Upper Homonymous Quadrantanopia = Lesion at left temporal Radiation – Meyer's loop

6. Homonymous Hemianopia With central sparring = Lesion at right occipital Pole

الممسوحة ضوئيا بـ CamScanner

the retina

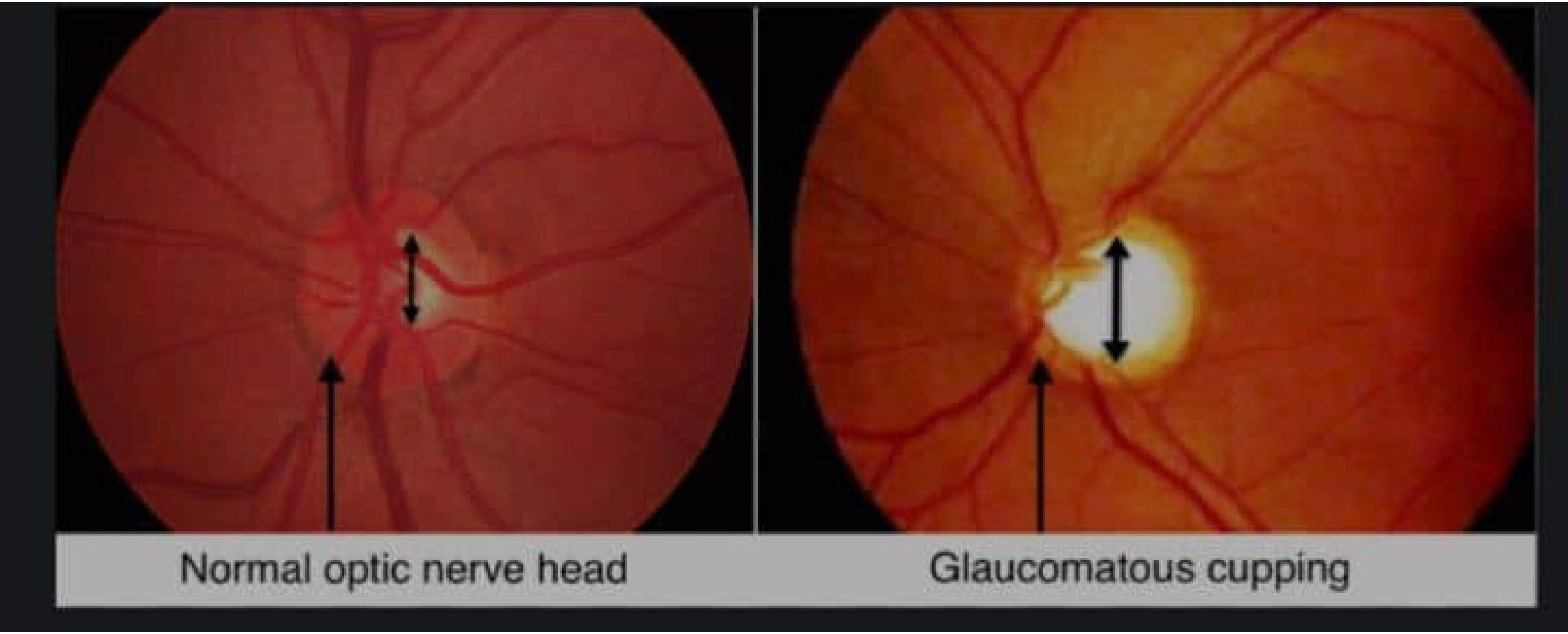
الممسوحة ضوئيا بـ CamScanner



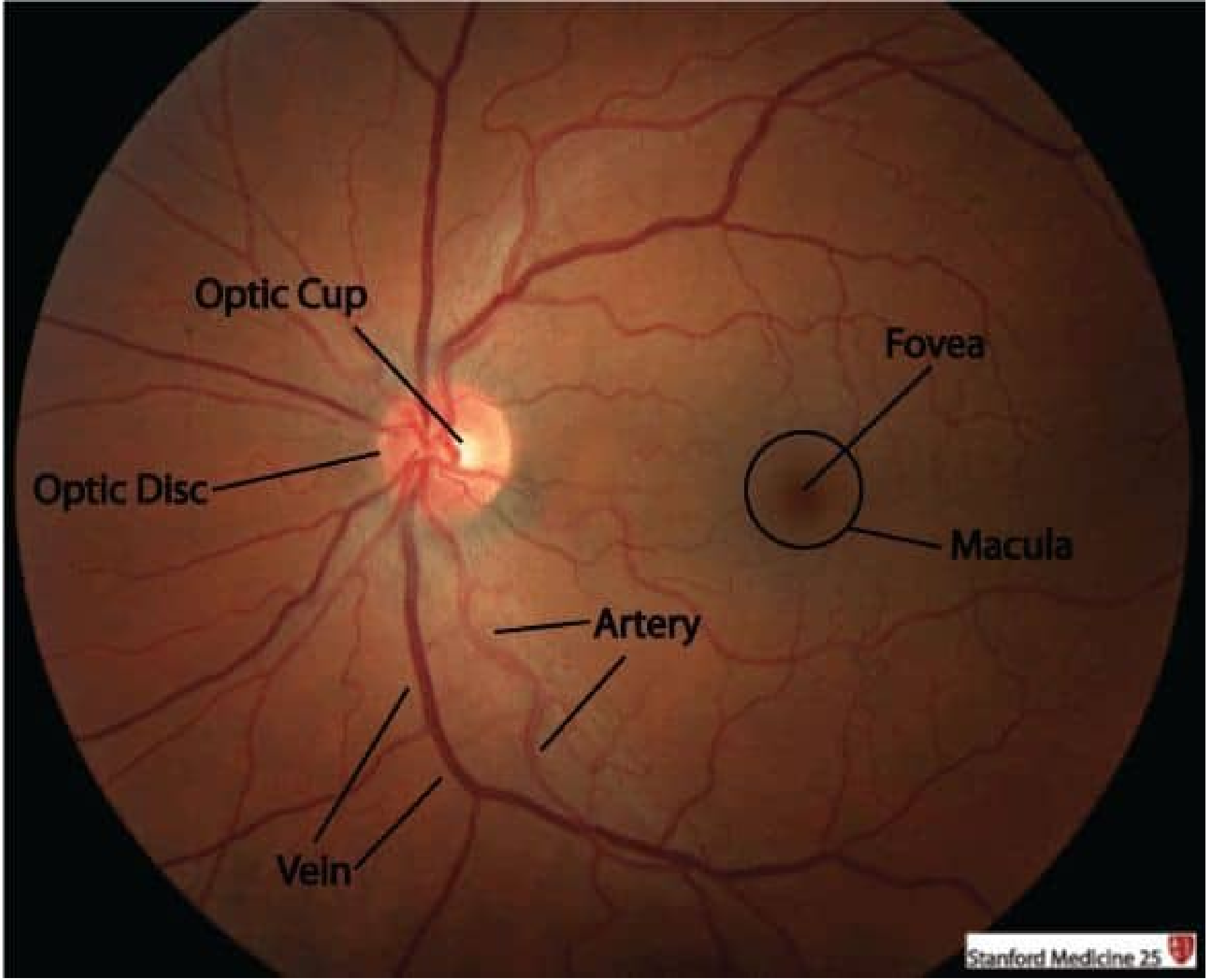
Koeppen & Stanton: Berne and Levy Physiology, 6th Edition.

Copyright © 2008 by Mosby, an imprint of Elsevier, Inc. All rights reserved

الممسوحة ضوئيا بـ CamScanner



الممسوحة ضوئيا بـ CamScanner



الممسوحة ضوئيا بـ CamScanner

*orbit

* The most common causes of Proptosis :-

① Congenital :- Dermoid cyst, Meningoencephalocele and congenital hemangioma or lymphoma

② Traumatic :- Retro bulbar hemorrhage, Surgical emphysema and Cardio-Cavernous aneurysm.

③ Inflammatory :- orbital Cellulitis and abcess, osteoperiostitis dacryoadenitis, TB, syphilis and Pseudo-tumor of orbit.

④ Tumors

⑤ Cysts :- Dermoid, Hydatid and Bloody cyst.

⑥ Vascular :- Retro bulbar hemorrhage, CST and orbital Varies.

⑦ Endocrine :- Thyrotoxic & Thyrotropic exophthalmos.

* The most common Causes of

orbital cellulitis "post Septal cellulitis"

① Local extension ex by Sinus, the most common is ethmoidal sinusitis.

② Direct inoculation From Trumer.

③ Hematogenous spread of infection.

④ Extention from preseptal cellulitis.

preseptal cellulitis.

Like the most common causes of orbital cellulitis except the last one

* The most common cause of Exophthalmos :-

① Traumatic ② Senile endophthalmos

③ post. operative ④ post inflamatory.

Note :- Most common cause of Proptosis { In adult :- Thyroid exophthalmus. In children :- orbital cellulitis.

* The most complication of orbital cellulitis :-

① orbit abscess ② Brain abscess ③ CST
④ Cerebral meningitis ⑤ optic neuritis
⑥ Endophthalmitis ⑦ CRAO, CRVO.

* Eye Injury :-

* The most common causes of hyphema :-

① Trauma < Blunt / Penetrating.
② Intraocular surgery.
③ Spontaneous :- ① Neovascularization of iris.
② Blood disease (leukemia, anemia).
③ Drugs (Aspirin, warfarin, NSAIDs)
④ Intraocular tumor.
⑤ Infection → HZ
→ HS
→ TB.

* The most common complication of hyphema :-

① Secondry glaucoma
② Blood stained cornea ③ Decrease vision
④ Secondary hyphema ⑤ Ant. Uveitis

* Neuro-ophthalmology

* The most common Causes of Leukocoria :-

① Congenital Cataract → Bilateral *
② Retinoblastomes → unilateral *
③ Retinopathy of prematurity ④ Total retinal detachment
⑤ Coat's disease ⑥ Toxocariasis.

* The most common causes lead to

Miosis
- Light, near vision, sleep.
- Drug ex:- ① Local pilocarpine ② acetylecoline ③ Morphine poison.
- Argull Robertos pupil, Hutchinson pupil, Horners Syndrom and hyperreactopia.

Mydriasis.
- Dark, excitement and Fear.
- Drugs:- Local atropine and phenylephrine.
- Acute congested glaucoma.
- Blunt trauma.
- optic nerve atrophy.
- Surgical 3rd nerve palsy.
- Adies Synetrom.

* The most common Causes of optic Neuritis :-

- Demyelinating disease → - MS, • schilder's disease
- General inflammatory condition. → - Post-viral "polio, Mumps and Measels". - Bacteria - Malaria. - Granulomas { TB, Syphilis
- Malnutration & Meteabolic disease. → - Diabets - • Beri-beri
- extensive of Local inflammatory disease. → - Uveitis - Retinitis • orbital cellulitis - Meningitis
- septic Foci
- Idiopathic
- Hereditary → Hereditary optic Neuritis "Leber's disease"

* The most common cause of papilloedema :— due to ↑ IOP
① Intra-Cranial Space occupying lesion ② Meningitis, encephalitis.
③ Pseudo-tumore cerebri ④ Sever hypertension ⑤ Cavernous Sinus Thrombosis.

CamScanner

* The most common causes of optic N atrophy

1ry optic N atrophy due to :-
① Congenital
② Tumor
③ Toxic amblyobia
④ Neurosyphilis.
⑤ Trauma.
⑥ Retrobulbar neuritis
⑦ Hereditary.

2ry optic N atrophy due to :-
① Post. Papillitic
② post. Papiledemic
③ AION.

Consecutive optic N atrophy due to :-
- any cause in Retina
ex :-
① Retinitis pigmentosa.
② CRAO
③ degenrative Retinal disease

Post. Glaucomatous optic N atrophy due to :-
① Glucoma

* The most common cause of optic disc swelling :-
① Vascular Cause → CRVO, AION
② Inflammation → papillitis & Uvitis.
③ ↑ Intra orbital Presser → orbital tumor, orbital cellulitis and orbital abscess.
④ Systemic disease → Cruint cell arthritis, Polycythemia & anemia.

* Sclera :-

* The most common Causes of Blue Sclera :-
① Buphthalmous ② Marfant Syndrom
③ Keratoconus ④ Keratoglobus ⑤ High myobia
⑥ Osteogenisis imperfecta ⑦ Turner syndrom.

* The most common causes of

Episclerits
- Idiopathic
- Collagen disease.
- HZ
- Crout

Sclerits
- 50% Collagen disease.
- HZ
- TB, Syphilis
- Crout.

* Retina :-

* The most common causes of Retinitis pigmentosa :-
① Isolated → without family history.
② Inheritance **
③ May associated with → keratoconus, cystoid, POAG, Post. sub capsular cataract.

* The most common causes of Retinal artery occlusion :-
① Embolism ② Thrombosis
③ Spasm :- hypertension, migrain and Quinine toxicity.
④ Vasculitis :- Giant cell arteritis, Polyarthritis nucleosa.

* The most common causes of ~~Retinal~~ Retinal vein occlusion :-
① Atherosclerosis & Arteriosclerosis.
② Systemic disease → HTN, DM, Hyperlipidemia, smoking & obesity
③ ↑ IOP ④ Inflammatory → sarcoidosis, Behcet disease.
⑤ Hyperviscosity → Polycythemia.

* Stages of diabetic Retinopathy :-
① Background DR ② Pre-Proliferative DR ③ Proliferative DR
④ Diabetic Maculopathy.

* Complication of diabetic Retinopathy :-
① TRD ② Rubeosis iridis ③ vitreous detachment & hemorrhage.

* Types of Retinal detachment and their causes

Rhegmatogenous RD
- Cause :- Retinal breaks.
- RF :- ① High myopia
② Aphakia.
③ Trauma.
④ Family history of RD
⑤ Cataract extraction
⑥ PVD.

Tractional RD
① Proliferative DR
② Cystic membrane
③ vitreous hemorrhage.
④ Retinopathy of prematurity

Exudative RD
① Choroidal tumors.
② Choroiditis.
③ Subretinal neovascularization
④ Systemic causes such as hypertension & eclampsia.

CamScanner

* Uveal Tract :-

* Most common causes of Acute Ant. Uveitis :-

Autoimmune
1. IBD < ulcerative colitis. / crohn's disease.
2. Reiter's syndrome.
3. Sarcadosis
4. Psoriasis
5. Ankylosing spondylitis
6. Sympathetic opthalmia
7. Lence induce uveitis.
8. Still's disease
9. Becets disease
10. Vogt. Koyanagi - Harada Syndrom.

infection
- viral → HSV, HZV, mekase, CMV
- Parasite → Toxoplasmosis, Toxocariasis
- Bacteria → Leprosy, syphilis, TB.
- Fungle → Candida.

Malignancy
- Retinoblastoma
- Melanocytic Melanoma
- Leukemia
- Lymphoma.

other.
- Traumatic
- Dislocation of lense
- RD
- Idiopathic

* Complication of Acute Ant Uveitis :-

1. Complicated Cataract
2. Secondry Glaucoma
3. Post. Synechiae.
4. Ant. Synechiae
5. Cystoid Macular edema
6. cyclitic membrane.
7. optic neuritis
8. endophthalmitis & Panophthalmitis
10. Atrophic bulbi & phthisis bulbi

* Most common causes of intermediateel uveitis :-
1. Idiopathic
2. MS
3. Lyme
4. T.B
5. Sarcoidosis
6. IBD.

* Most common causes of post. Uveitis :- VKH 3S 3HTC
1. Vogt-Koyanagi-Harada Syndrom
2. Sympathetic opthalmia.
3. sarcoidosis
4. Syphilis
5. HS
6. HZ
7. Histoplasmosis
8. TB
9. Toxocariasis
10. CMV
11. Idiopathic
12. Candidiasis.

* Pan-Uvitis ⇒ Most common causes :-
1. Sympathetic opthalmia.
2. VKH Syndrom
3. Behcet's disease

CamScanner

* The most common causes of Rubeosis Iridis :-
① Ischaemic CRVO ② Proliferation DR
③ Carotid obestractive disease ④ Intraocular tumors.
⑤ Chronic intraocular inflammation ⑥ Retinopathy of Perematurity ⑦ CRAO
⑦ Ankylosing spondylitis

* The most common disease "systemic disease" associated with Uvitis :- ① V-K-H syndrom ② Rheumatoid arthritis
③ Sarcoidosis ④ IBS ⑤ Behcet syndrome.

* Vitreous :-

* The most common causes of vitreous floaters :-
① Idiopathic ② vitreous degeneration → Synchisis scintillans, Asteroid hyalosis
③ High myopia ④ Post. Uveitis ⑤ Vitreous hemorrhage ⑥ IO Tumor.

* The most common causes of viterous hemorrhage :-
① Trauma.
② CRVO ③ Eale's disease ④ Malegnent hypertension
⑤ DM ⑥ Blood disease ⑦ Post. vitreous detachment.
⑧ Retinal breaks ⑨ vitreous fiberous band.

* Lense :-

* The most common cause of congenital cataract :-
① Hereditary ② Maternal malnutrition ③ Intrauterin infect: Rubella
④ Hypoxia due to sever placental hemorrhage
⑤ Myotonic dystrophy, Marfan syndrom and Down syndrom
⑥ Maternal drug ingestion :- corticosteroid. Thalidomide,
⑦ Metabolic disease :- Galactosemia, Homocystinuria, wilson disease
hypoparathyroidism and Hyperparathyroidism

* The most common complication of congenital catract :-
⇒ Unilateral :- Amblyopia & squint
⇒ Bilateral :- Nystagmus & Mental retardation.

* The most common causes of subcapsular catract :-
① DM ② steroid medication ③ Retinitis pigmentosa
④ Other causes :- Myopia, hypermetropia, chronic Uveitis, Trauma & Radiation.

* The most common Causes of Traumatic cataract :-

① Penetrating injury ② Blunt trauma < Vossius ring / Rosette cataract
③ electrical schock ④ Ionizing radiation
⑤ Heat "infrared radiation" → Glass Blower cataract
⑥ IO Foreign Body "IOFB" < Siderotic cataract → Iron / Sunflow cataract → Copper

* The most common Causes of Toxic cataract :-

① ~Miotic ② Gold ③ Allopurinol ④ Steroid
⑤ Antipsychotics ⑥ Chlorpromazin ⑦ Neostigmin
⑧ Amiodaron ⑨ Busulphan

* The most common causes of complicated cataract -

local causes

"HR - GUT - KILL"
① High myopia
② Retinitis pigmentosa
③ ACG "glaucoma flecken"
④ Uveitis ⑤ Topical drug < steroid / miotic
⑥ Keratitis ⑦ Intraocular tumor
⑧ Lens displaced ⑨ long standing RD

systemic causes

"HMAIDA - TMC - GIM"
① Hypoparathyroidism
② ~Myotonic distrophy
③ Atopic dermatitis
④ DM ~
⑤ Ankylostoma
⑥ Systemic drugs < steroid / Busulphan / Amiodaron / Gauld.
⑦ Mogolism ⑧ Cretinism
⑨ Galactosemia ⑩ Marfan Syndrom

* Types of congenital cataract :-

① Ant. polar cataract ② Post. polar Cataract
③ Lamellar (Zonular) Cataract → Most common type **
④ Rubella "Total" Cataract ⑤ Cerulean cataract
⑥ Blue dots "punctate" cataract ⑦ Sutural Cataract.

* Types of Senil cataract :-

Senile cortical Cataract (75%)
1. Immature stage { incipient cataract. / intumescent cataract.
2. ~Mature stage
3. Hypermature stage { shrunken type / morgagnian type.

Senile nuclear cataract (20%)

Senil cortico nuclear cataract (5%)

* The most common causes of Aphakia :-

① Congenital
② Acquired → Trauma.
→ Surgical removal.

* The most common causes of Lense Subluxation & Dislocation :-

Congenital

① Marfan Syndrom
② Homocystin uria
③ Familiar
④ Associated with → Buphthalmus.
→ Micro-cornea.
→ Aniridia.
⑤ Ehler-danlos syndrom
⑥ Sturge-weber syndrom
⑦ Stickler-Syndrom.

acquired

① Trauma
② High myopia
③ Hypermature cataract.

* Glaucoma :-

- Congenital
  - Primary
  - Secondry
- Acquired
  - Primary
    - open
    - close
  - Secondry
    - open
    - close

* The most common causes of Primary congenital glaucoma :-

① Precent of mesodermal membrane obstruction aqueous outflow «Barkean's membrane»
② Failure of complet seperation of the iris From the cornea.
③ Absent of canal of schlemm's
④ Ant-insertion of longitudinal bundles of cilliary muscle into trabecular meshwork
⑤ Arrest of development of the angle of Ac intra utrin.

* The most common causes of secondry congenital glaucoma :-

① Aniridia ② Marfan's syndrom ③ Sturge-weber Syndrom
④ Congenital rubella ⑤ Retinoblastoma ⑥ Uveitis ⑦ Trauma.

CamScanner

* Most common causes of Secondy open angle glaucoma :-

① Pseudoexfoliative glaucoma ② pigmentary glaucoma
③ Inflammatory glaucoma ④ Lense induc glaucoma → phacolytic glaucoma, phacotoxic Uvitis
⑤ Traumatic glaucoma ⑥ Cortison glaucoma.

* Most common causes of secondary close angle glaucoma :-

① Rubeosis iridis ② Trauma ③ Lense induc glaucoma → phacomorphic glaucoma.
④ Hydratic drug ⑤ Causes in iris → Chronic iridocyclitis, iris tumour cyst.

* conjunctiva :-

* The causes of conjunctivitis

- Infective
  - Acute
    - Bacterial
      ① Muopulent
      ② Purlent
      ③ Membranous
    - Viral
      ① Adenovirus.
      ② HZV.
      ③ HSV.
  - Chronic
    - Trachoma
    - Follicular
    - Angular
    - Specific → TB, Syphilis
- Non infective
  - Allergic
    - Allergic Simple conjunctivitis
    - Spring catarrh
    - Phlyctenular Kerato-conjuctivitis
  - Traumatic & chemical

* Trachoma is characterized By formation of :-

① Follicles ② Papillae ③ Pannus ④ Heals By cicatrisation.

* WHO classification of Trachomatous lesion :-

① Trachomatous follicular (TF).
② Trachomatous intense (TI).
③ Trachomatous Scarring (TS).
④ Trachomatous Trichiasis (TT).
⑤ Corneal opacity (CO).

* The most common causes of follicular conjunctivitis :

① Chlamydial Infection → Trachoma.
② Viral Conjunctivitis → Adenovirus, HSV, HZV
③ Atropin irritation
④ Chronic follicular conjunctivitis.

* The most common causes of phlyctenular conjunctivits :-

① Tuberculo-protein ② Septic foci
③ Intestinal parasite

* The most common causes or infective organism of ophthalmic neonatorum

In Yemen ⇒ Staphylococcus aureus**

In world ① Gonococci ② Chlamydia.

* Causes of pterygium :—

⇒ Unknow But it may be related to :—
① U.V.R ② Chronic irritation By → dust, wind, Fumes
③ Recently ⇒ is due to Limbal stem cell deficiency.

* Pinguecula → Hyaline degeneration of the conjunctiva with deposition of elastic tissue (yellow)

* SAFE Strategy is recommended in Trachoma :-

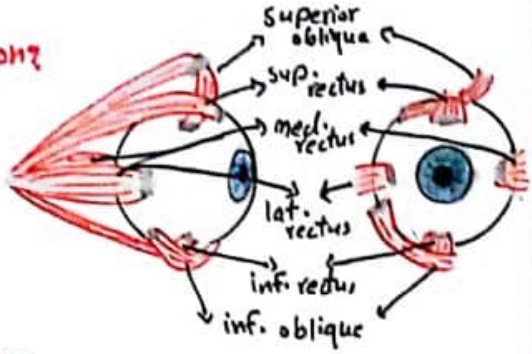
S ↓ Surgery
A ↓ Anti biotic
F ↓ Facial cleanliness
E ↓ Environmental improvement.

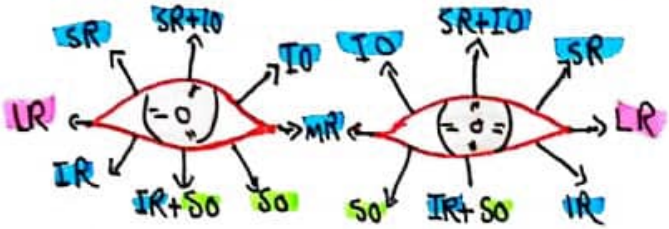
Squint...

eye movements...

*enumerate the extra ocular muscle and their functions

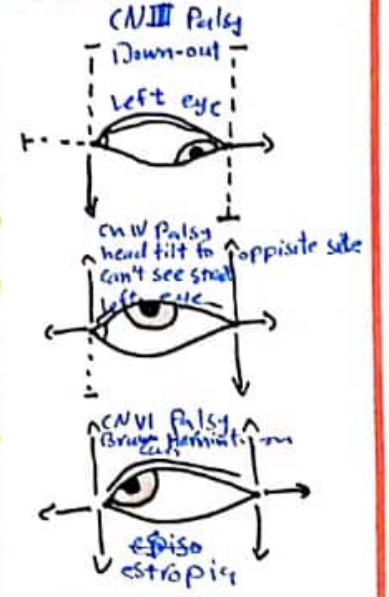
- Lateral rectus [ABduction].
- Medial rectus [ADduction].
- Superior rectus [elevate, ABduction, intorsion]
- Inferior rectus [depress, Adduction, extorsion]
- Superior oblique [intorsion, abduction, Depression]
- Inferior oblique [extorsion, abduction, elevation] LR6SO4



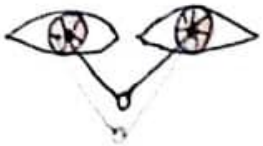


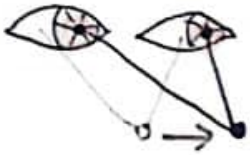
Cranial nerves:-

- CIII occlumotor nerve
- CIV Trochlear n.
- CVI Abducent n.



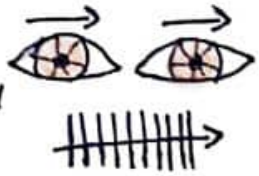
*Vergence "Simultaneous movement of eyes in opposite direction".

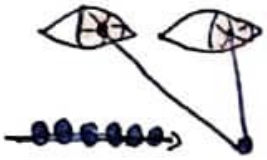




*SACCade "Fast, Simultaneous movement of eyes in same direction".

*optoKinetic "Slow, fast phase, eye tracts moving object until it moves out of visual field and returns to original Postion".



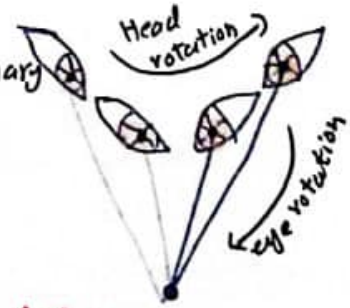


*Pursuit [eyes track moving object].

Horizontal Gaze Pathway:

- LMN axons → ipsilateral CN VI Nuclus → LR ms.
- Interneuron axons → Contralateral MLF → CN III Nuclus → MR ms.

*Vestipulo-ocular "stabilizes Gaze on stationary object when head moves".



+All muscles supplied by 2 branches of ophthalmic artery except Lateral rectus ms. single branch of " ".

Hind Adel

CamScanner

Types of squint

- Apparent squint
- True squint
  - manifest
    - Paralytic
    - non Paralytic [concomitant].
  - Latent squint

* Enomerate causes of apparent squint.
  - Apparent convergent sq.
    - epicanthus.
    - Small inter pupillary distance
    - High myopia
  - Apparent Divergent sq.
    - Lateral ankyloblepharon
    - large inter pupillary distance
    - High hypermatropia.

* Enomerate types of laten squint [Heterophoria].
  - Common
    1. Exophoria:- eye tend to deviate outwards
    2. Enophoria:- eye tend to deviate inwards
  - uncommon
    3. Hetrophoria :- deviate upward
    4. Hypophoria :- deviate downward
    5. Excyclophoria:- eye tend to roll out
    6. incyclophoria :- eye tend to roll in

* Enomerate causes of Paralytic Squint.
  - Nuclear lesion
    - congenital :- absence of nucleus
    - inflammatory:- encephalitis
    - Vascular:- thrombosis embolism
    - Tumor:- of brain stem.
  - Nerve lesion
    - inflammatory:- meningitis
    - vascular:- Haemorage [Sub-dural Hg] - micro-angiopathy
    - Tumor:- ICT
    - Trauma:- fracture of base of skull
    - anyrysm:- Post. communicating art.
  - muscle lesion
    - congenital
    - Trauma:- orbital bone fracture
    - Neuro-Muscular:- myopathy myasthenia gravis
    - Thyrotoxic exophthalmos

* Enomerate causes of concomitant sq.
  - Refractive error
    - Hypermatropia [excessive accomidation => esotropia]
      - fully accommodation -> optic correction - No surgery
      - Partial accommodative -> need surgery
    - myopia [less accommodation from loss convergene => exotropia]
  - non-refractive error
    - congenital
    - Sensory deprivation "anything => ↓ development of Binocular vision eg:- Cataract."
    - retinal disease [retinoblastoma].

* Enomerate Compilications of Concomitant sq.

1- Suppression occur in alternating sq.
neglect by brain to image seen in sq. eye

2- Amblyopia occur in unilateral sq.
↓ visual acuity in sq. eye ∩₂ prolonged suppration

3- Eccentric fixation occur in some cases of Amblypia when pt develops ability to fix object by parts of retina other than macula.

* Enomerates types of emblyopia.

1- Strabismus. amplyopia.
2- Stimulus deprivation amblyopia] befor 6 Years
3- anisometropia amblyopia.
4- isometropic amblyopia
5- Meridional amblyopia.

CamScanner

CRANIAL NERVE PALSY 3,4,6

Cranial nerve	3rd cranial nerve Palsy		4th cranial nerve Palsy	6th cranial nerve Palsy
Cause	Complete Palsy aneurysm in Post communicating a. or tumor	Partial Palsy DM HTN	Commonest cause is trauma; vascular [DM, HTN, arteriosclerosis] CI tumor.	Vascular diseases DM, HTN, arteriosclerosis)
Clinical Manifestation	1- Complete ptosis 2- Exotropia 3- No diplopia 4- Proptosis [mild]		1- Hypertropia 2- Diplopia 3- limitation of movement 4- Compensatory head tilt to opposite side	1- Esotropia 2- Diplopia 3- limitation of movement 4- Compensatory head turn to same side
	5- Dilated Pupil 6- loss of accommodation	5- sphincter ms + Ciliary ms not involved		

Case 1: A 50 years old female pt came to emergency complaining of headache sudden and complete Ptosis with exotropia, on ophthalmic examination there were:
- Dilated pupil, loss of accommid...

ophthalmic diagnosis:-
Complete 3rd CN Palsy D_2
Post. communicating a. aneurysm
- emergency → refer to neurological unit

Case 2: A 42 years old male pt came complaing of headache - complete ptosis extropia - on ophthalmic examination
- Pupil was reactive to light and near...
- pt has hx of HTN and smoking.

ophthalmic diagnosis:
Partial 3rd CN Palsy D_2 HTN

Case 3: Pt came complaining of diplopia limitation of movement with hx of HTN & DM or IC tumor or arteriosclerosis
opthalmic examination shows

- exotropian
- Head turn to same side

6th CN Palsy

- Hypertropia
- Head tilt to opposite side

4th CN Palsy

Cornea (1)

التاريخ / / ٢٠١ الموضوع :

A- Infective corneal ulcer.

1- Bacterial corneal ulcer

∴ Complications before perforation.

1- Iridocyclitis (Anterior uveitis).

2- 2ry glaucoma.

3- Descematocele (Keratocele).

Transparent vesicle of descement membrane.

4- Corneal opacity: 5- Abnormal scar.

6- perforation. 7- keratectasia.

8- Corneal vascularization.

∴ Complications of perforation.

1- Iris prolapse.

2- Anterior Synechiae.

It's adhesion of iris to the cornea.

3- Adherent leucoma.

It's a leucomatous opacity in which the iris tissue is coged within th layers of the corneа.

4- Anterior staphyloma

The adherent leucoma ectatic due to secondary glaucom

5- Corneal fistula

It is usually situated in the center.

6- Anterior capsular cataract.

7- Displacement of lens.

8- Intraocular hemorrhage (Expulsie hemorrhage)

9- Endophthalmitis & panophthalmitis.

2-Fungal & parasitic corneal ulcer.

- Causes

- Fungal ulcer keratomycosis.

1- Trauma with object of plant sources ((agricultural workers as farmer)).

2- more common in the urban.

3- immunocompromised patient.

- parasitic ulcer

- Contact lens wear bad cleaning ((use of tap water to clean lens))

- occur in non-contact lens wearers after exposure to contamine water or soil

3-Viral corneal ulcer

- Causes: Fever, overexposure to ultraviolet light, trauma, onset of menstruation, stress, immunosuppression

- Herpes simplex Keratitis ((Dendritic ulcer))

- Herpes simplex type 1 ((Epitheliotropic))

- Herpes simplex keratitis occurs in two forms: Primary and recurrent

- Primary herpes in children Secondary herpes in young adult

- Usually unilateral (bilateral rare)

- Herpes zoster keratitis Herpes zoster ophthalmicus.

- Varicella-zoster virus ((Neurotropic))

- Primary (varicella) and recurrent (herpes zoster).

- Mainly affect elderly people But may occur at any age.

- Almost always unilateral.

CamScanner

A-NoN Infective Corneal ulcer

1-Exposure Keratitis (Keratitis with Lagophthalmos)

- Causes: Causes of Lagophthalmos.

2-Neurotrophic keratitis (Neuroparalytic keratitis)

- the most comcan comses: Trigeminal nerve dysfunction, due to trauma, surgery, tumor, inflammation.
herpes zoster herpes simplex, DM, Leprosy.

- Corneal Degeneration

1-Band (Calcific) Keratopathy

- Causes: juvenile idiopathic arthritis: Chronic uveitis Glaucoma, Hyperathyroidism.
Vitamin 'D' intoxication, Sarcoidosis, CRF, Leprosy, Idiopathic, Familial.

Corneal ectasia

1-Keratoconus

- Causes: -Cause Unknown BUT Keratoconus has been associated with.
- Systemic disease:- Down's syndrome, Turner syndrome, Atopic dermatitis, Marfans syndrome, APert's syndrome, and Ehlers-Danlos syndrome, Asthma.
- Ocular disease:- Retinitis Pigmentosa, Ectopic lentis spring catarrh, Aniridia, rigid Contact lens wear + Constant eye rubbing

- Complications of hydrops:-
acute corneal edema and clouding due to break in DM, painful or painless, decrease IOP, heals over 6-10 weeks, scarring can occur occasionally with stromal neovascularization.
- The most common cause of hypopyon ulcer:-
- Predisposing factors / organism + abrasion + poor general condition dacryocystitis → pneumococci.
- Organisms: Pneumococci 80% (typical hypopyon ulcer), Moraxe-Axenfeld diplobacilli 10%, staph, fungi.
- The most common cause of acanthamoeba keratitis:-
Risk factors: cleaning of soft contact lenses with home-made solution, swimming or hot tubbing while wearing contact lenses.
- Complications of herpes zoster ophthalmics:-
1- Post-herpetic neuralgia.
2- Meningoencephalitis and myelitis.
3- Granulomatous arteritis.
4- Orbital apex syndrome.
- Complications of herpes simplex virus:-
- uveitis, glaucoma, episcleritis, scleritis, 2ry bacterial keratitis, corneal scarring & ghost vessels corneal perforation and punctual stenosis.
- Complications of dendritic ulcer:-
1- Corneal: opacity, necrotizing keratitis, disciform keratitis metaherptica, amoeboid ulcer "extensive superficial irregular ulcer"
2- Iris: iridocyclitis, hypopyon and hyphaema.

- Error of refraction...

- Causes: 1- AXIAL MYOPIA (MCC)

Axial length is longer than average

2- REFRACTIVE MYOPIA

If refractive elements are more refractive power than normal

A- Curvature myopia - B- index myopia

- more curved cornea or lens (Keratoconus, lenticonus, subluxation).
- increase of refractive index of lens nucleas insenile nuclear cat.

- Causes: AXIAL HYPERMETROPIA (MCC)

Axial length is smaller than average,

2- REFRACTIVE HYPERMETROPIA

A- Curvature hypermetropia - B- index hypermetropia

- less curved cornea (Cornea plana) or lens
- increase of refractive index of lens cortex in immature senile cortical Cat.

3- POSTERIOR DISLOCATION of LENS + APHAKIA.

4- DM (HYPOGLYCEMIA). 5- APHAKia.

- COMPLICATION:- 1- Squint (divergent)

∴ Complication of Pathological myopia:- 1- Primary RD.

2- Macular hemorrhage, hole, degeneration.

3- Vitreons floaters, liquefaction, PVD.

4- Complicated cataract (posterior cortical).

5- POAG + Pigmentay glaucoma.

6- Sclera - Post - staphyloma.

CamScanner

hyermatropia.. 1-Squint (Convergent). 2-PCAG
3-Pseudo-naritis.

Astigmatism...

Regular Astigmatism :- Causes

1-Corneal asigmatism.-
Congenital, Post-operative (after Cataract extraction, Kerat-Plasty).
2- Lenticular asigmatism:- rare.

1-Corneal astigmatism:- Keratoconus, Corneal opacity; Pterygium
2-Lenticular:- immature Cataract.

ANISOMETROPIA

-Causes:- Congenital, acquired (unilateral Aphakia)

Presbyopia...

-Cause:- Maybe due to lens sclerosis + decrease of elasticity of capsule.

Lacrimal

- The most common cause of dry eye :-

Ⓐ Aqueous layer problem:-

1- S-jogren syrdums :- it's auto-immune disease destroys exocrine glund level to dry eye and dry muth « xerostomia ».

2. Non-Siogren syuelrome :-

A- Acuye related hype semation. B- Hormuonal as in menoPaused

C- Drug as aunti-cholinergic. D. lavrimal Husse destruction :-
① Inflation
IIsarcoiclsis
② tumour

H. Alosence or recluetion of lacimal tissue
1. Surgreal or anginlal

I - conjunatival scaming with obstruction of laurinal glarel clueds
1- chemical burn 2- Ocular cicatricial pemphigoid
3- steven Juhenson syuctiome 4- old trachoma.

G - Meurologic cause or neuroparalytic cause ex :- 7th cninal Nerve pulsy and cerebello-pontine aunyle tumor

H. others congenital causes :- ① familial dysaulonomia (Rile Day syrelrim)
② Aplasia of laurimal gland (Alacrimal ③ 5th cinal oplaria
④ 6doctenal dysplasiu.

j- Miscellaneous :- ① cesloboma of felid ② learatini zetion of lid mangsn ③ leprusy ④ pterygium ⑤ symldephanin
⑥ Henocromatasis.

⑬ E-vaparatine problem:-

① Intrinsic :-
Ⓐ Meibomian glund dysfunction :- ① past blepharitis ② Rosacea
③ Alopic larato. anjunctimtis ④ congenital meibumian gland obsent

Complications of dry eye :-

1- Vision is not impaired in early stages but if ulceration → corneal thining → perforation (threating the vision).
2- Secondary bacterial infection - rare → Corneal scaring vasculanzation (both lead to imparied vision).

③ layopthulmous :- ① paralysis of orbiculanic musde ② eyelid scarring
③ uloboma ④ Sever proptosis.

② Extrinsic :-
Ⓐ vitamin A deficienay « xerophithalmia »
Ⓑ contact lens wear Ⓒ Topical drug preservative.
Ⓓ emviromental feetors :- as air cundition.

- The most common cause of ~~Acute~~ Acute Dacryocystitis.
1- Denovo or an top of clirunre inflamtion or fetal Aotsing.
2- Due to Nasulaerirnal duct otstruction « stasis fallared oyirfections »
3- due to infection from conjunctiva or Nose

- Causekre organism :- Ⓐ Adult → staphylulocacurs aurews, Arumuicoccus
Ⓑ children → Hemophilus influerna in children.

- The most common cause of lacrimation :-
① Emotional :- ey :- excitement.
② Reflex :- affrent 5th efferet 7th due to cerneal uker, iritis, conjunctinitis, Gluusma and forign Body.

- The most common cause of Epiphara :-
① laerimal purp failure :-
Ⓐ. ectropion. Ⓑ Fauial Nerve Pawy.
② loss of sharpreus of postenor border :-
Ⓐ blephritis Ⓑ lid cololooma

* Obstructive epiphera:-

A - Puncti.

1. Congenital absence 2. Post traumatic fibrosis
3. Post inflammatory fibrosis 4- foreign body
5 stroptothinix 6 Trachorny.

B. Canaliculi

① Congenital stenosis, occlusion ② post traumatic fibros
③ post inflammatory fibrosis ④ Fungal canaliculitis
⑤ stroptothrix ⑥ Trachorny.

C - lacrimal sac

① Congenital absence ② Dacryocystitis (acute, chronic)
③ Fracture of orbit ④ Tumor of lacrimal sac ⑤ TB
⑥ Dacryocystectomy ⑦ Trama

D. Nasolacrimal duct

① Congenital imperforation ② Tumor
③ post inflammatory fibrosis ④ post traumatic fibrosi
⑤ venous congestion ⑥ periostitis

E. Nose

① Adenoids nasal polyps ② Deviated nasal septum
③ Hypertrophy of inferior meatus ④ Rhinoscleroma
⑤ nasopharyngeal tumor ⑥ maxillary sirasitis
⑦ Canlar maxilla ⑧ stone

CamScanner

- Complications of Chronic Dacryocystitis:-
- lac. Sac: Acute dacryocystitis with abscess formation or lacrimal fistula.
- Lacrimal mucocele → -ve regurgitation test.
- Lid: Epiphora → Eczema → Cicatricial ectropion.
- Conj: Chronic conjunctivitis.
- Cornea: Hypopyon ulcer.
- Endophthalmitis: It occurs if dacryocystitis is not treated before intraocular surgery.
- Metastasis as a septic focus in the body leading to bacteremia.
- the most common cause of acquired Dacryocystitis:-
- Hypertrophied inferior turbinate.
- Nasal Polyp.
- Markedly deviated nasal septum.
- Nasopharyngeal tumors.
- Sinisitis. - Rhinitis. - Granulomas.
- Causes in the maxillary antrum, e.g Trauma leading to fracture and tum

- The most common cause of acquired Dacryocystitis
  - In the canal: Adhesions due to trauma or inflammation.
  - Lacrimal sac tumor (Rare).
  - In the well of canal:- Venous congestion as in cases of nasal catarrh.

- The most common cause of infantile Dacryocystitis:-
NLD obstruction (imperforate hasner's valve).
20% of children complain of NLD in first year of life

Eye lid

Enumerate the following:-

1- minute anatomy/ layers/ histology of eyelid.

1- skin. 2- Subcutaneous layer. 3- Muscular layer.
4- Sub-mascular layer. 5- fibrous layer.
6- involuntary ms. 7- Palpebral conjunctiva.

2- Glands of eyelid.

1- Meibomian gland ⇒ modified sebaceous gland
2- Zeis gland ⇒ modified sebaceous gland
3- Moll's gland ⇒ modified sweat gland.

3- Inflammation of eyelid

- Infl. of lid itself
  - lid abcess
- infl. of lid margin
  - Blephritis
- infl. of lid glands
  - a- zies → stye
  - b- Meibomian → acute → Hordeolum externum
    - → chronic → chalazion

4- Types of Blephritis.

- Ant. Blephritis
  - -ulcerative blephritis.
  - -squamous blephritis.
  - -Angular blephritis.
  - -Parasitic "
  - -Allergic "
- Post. blephritis
  - meibomian gland dysfunction

5- Complications of ulcerative - squamous blephritis

ulcerative:
1- keratitis
2- epiphora
3- Madarosis
4- conjuctivitis
5- stye
6- Trichiasis
7- Poliosis
8- Marginal corneal ulcer
9- ectropion.

squamous:
1- keratitis
2- epiphora
3- Madarosis
4- conjunctivitis

CamScanner

6- Compilications of Stye and chalazion

Stye:
1- madarosis
2- orbital cellulitis
3- Cavernous sinus thrombosis
4- Recurrence

Chalazion:
1- infection ⇒ Hordeolum internum
2- if large on UL ⇒ Mechanical ptosis + Astigmatism
3- " " " LL ⇒ " Ectropion
4- cyst Formation.
5- Reccurence.

7 Causes of trichiasis, Pilosis, madarosis

trichiasis:
1- Congenital [distichiosis]
2- Aquired
- Primary [without entropion]
  - ulcerative blephritis.
  - burn / chemichal injery.
  - ocular cicatricial pemphigoid.
  - Trachoma.
- secondary [on top of entropion] [Pseudotrichiasis]
  1- Blephritis
  2- Vogt-Koyanagi-haradu syndrome
  3- Sympathetic ophthalmia
  4- vitiligo
  5- Marfan syndrome.

Pilosis:
a- Congenital.
b- Aquired.
1- chemical / thermal injery repeated electrolysis
2- Blepharitis / Herpes Zoster SLE, Myxoedema
3- Radiation / chemotherapy
4- Skin diseases Psoriasis - alopecia
5- Vit A deficiency / hyper

madarosis:
a- Congenital
b- Aquired

8- Types of Entropion

a- congenital
D2 micro / Anophthalmos

b- Aquired
- cicatricial
  D2 Trachoma - burn / chemical injery
  ocular cicatricial Pemphigoid - steven johenson
- ~~sinile~~ senile most common cause
  D2 enophthalmos.

9- Types of Ectropion

a- congenital
Congenital anamoly

b- aquired
- senile [MCC] D2 weakness of orbicularis oculli
  laxity of Palpibral lig.
- cicatricial.
  Burn - chemichal injery - Rodent ulcer
- Mechanical
  D2 ↑ Wieght on lower lid → multiple chalazoin
  → tumor
- Paralytic
  Facial nerve palsy ⇒ Paralysis of orbicularis oculi

10- Types of Ptosis.

a- Congenital [more common]

Dz mal development of Levator ms or its nerve supply.

Congenital
* other ~~associated~~ anomalies associated with congenital ptosis :-
1- Weak sup. rectus ms
2- Epicanthus
3- Marcus-Gunn phenomenon

Aquired [less common].

- Neurogenic
  - 3rd CN Palsy - Complete
  - Horner's syndrome - Partial
- myogenic
  - myotonic dystrophy
  - myasthenia gravis
- Aponeurotic
  - Senile
  - Post operative
- mechanichal
  - multiple chalazion - tumor.
- Traumatic
- Hysterical

11- Causes and Compilication of Lagophalmos.

Causes:
- Lid coloboma
- familial
- Paralysis of fascial nerve Palsy
- anterior staphylema
- Proptosis
- Severe ectropion

Compilication:
- exposure keratitis in lower 1/3 [bell's phenomena]
- chronic conjactivitis
- dry eye.

12- Causes of symblepharon.

1. Trachoma.
2. Burn / chemical injery.
3. ocular cicatricial Pemphigoid.
4. reccurent pterygum operation.
5. Vit A deficiency
6. Steven Johson Syndrome

Notes:

* ophthalmic emergency :-
  - which lead to death or blidness

1- Admission

DDx of Periocular odema + red :
1- orbital cellulitis.
2- Preseptal "
3- endophthalmitis : inflamation of globe except sclera
4- Panophthalmitis: inflammation of all globe with sclera
5- allergic edema.
6- CST cavernous sinus thrombosis.
7- orbital pseudotumor.
8- Retinoblastoma.

* Signs of inflammation:
redness - hotness - swelling - odema - Pain
=> loss of function

* any abcess - incesion and drain

Age Related Macular Degeneration... ARMD.

Most common cause of vision loss in individuals >65 years of age in developed countries.

Pathophysiology:-

wet: Neovascularization with vascular leakage

Dry: Drusen deposition

* low perfusion leading to photoreceptor atrophy retinal Pigment epithelium ischemia
* inflammatory processes leading to retinal pigmend epithelium [RPE] apoptosis
* Primary senescene of RPE cells

→ photoreceptor atrophy

↓

extracellular depris [drusen] from RPE atrophy deposits btw Bruch's mem and RPE

↓

Drusen above Bruch's mem reduces blood flow from choroid to retina

↓

nutrients cannot reach retina from choroid and waste products from retina cannot pass into the choroidal bed

↓

Ischemic RPE and photorecep

← Break occurs in Brunch's mem

← Blood vessels grow from the choroid circulation into retina

↓

Wet ARMD

Choroid neovascularization seen on fundoscopy.

↓

Neovabnormal VS leak serious fliud and blood under retina.

- Distorted central vision
- macular odema

Dry ARMD

Drusen deposilions; geographic atrophy of RPE

↓

loss of photoreceptors

- Facal / blind spots in central vision
- Asymptomatic early

***Risk factors:-**
age > 50 years, Female
Caucasion, Smoking, Hypertension, Family hx

***Presentation:-**
- Bilat loss of central vision with same blurred visi
- Peripheral vision is preserved
- Metamorphopasia: distortion
- Micropsia: object appear smaller
- loss of color
- Scotomas: blind spot

-Diagnosis:-
- flurcein angiography

-Treatment:-
- intraocular injections of Bevacizumab
- Anti-VEGF inhibitors
- stop bleeding and reduce neovascularization
- laser photoagulation
- optical tomography to monitor tht response

-Treatment:-
- Annual eye examination
- Zinic-vitA, C, E may slow progression

-Amler Grid at home to monitor stability ⇒ mark areas that appear abnormal to track prognosis

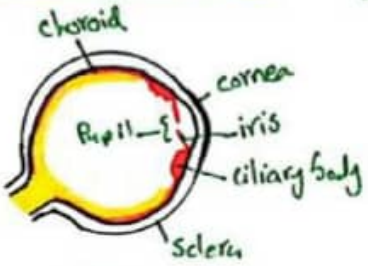
test to detect or monitor metamorphopsia or scotoma involving the central visual field — macula, optic n.

Hind Adel

CamScanner

Orbital Region
Eyeball

Lacrimal Apparatus...



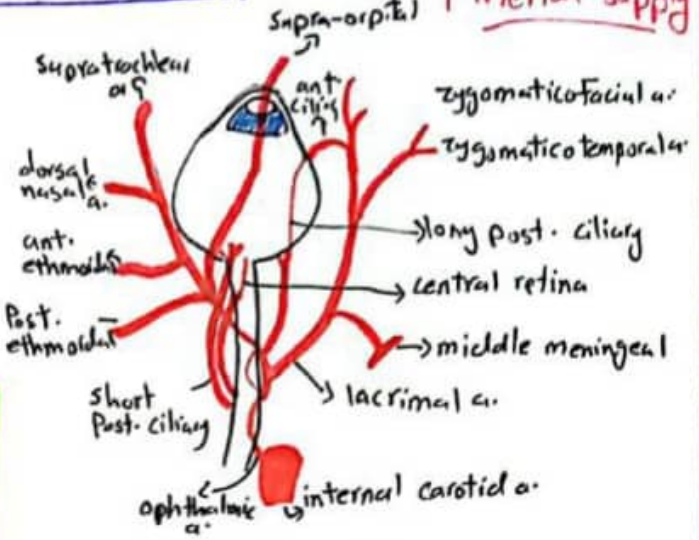
+ tunica fibrosa
  - sclera
  - cornea
+ tunica vascularitis
  - choroid.
  - ciliary:- ciliary muscle – accomodation
    ciliary process – aqueus humor
  - Iris:- dilator pupillae. Constrictor pupillae.
+ tunica nervosa:- Retina.

Suspensory ligament

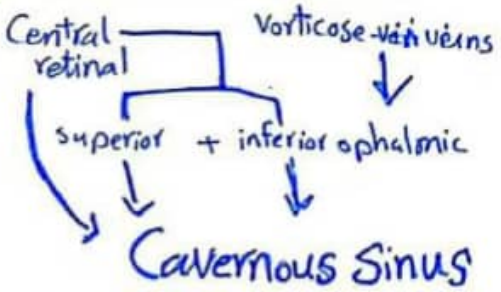
Compartments:-

- anterior compartment:- Aqueous humor
  - Anterior chamber. iris → cornea
  - Posterior chamber Lens → iris
  - constantly made
  - reabsorbed in anterior chamber by scleral venous plexus.
- Posterior compartment:- vitreous humor [gel-like] finite amount

Arterial supply



Venous drainage:-



Muscles

IOM

- iris ms
  - sphincter ms
  - Dilator ms
- ciliary ms
  - circular
  - Radial
  - longitudinal

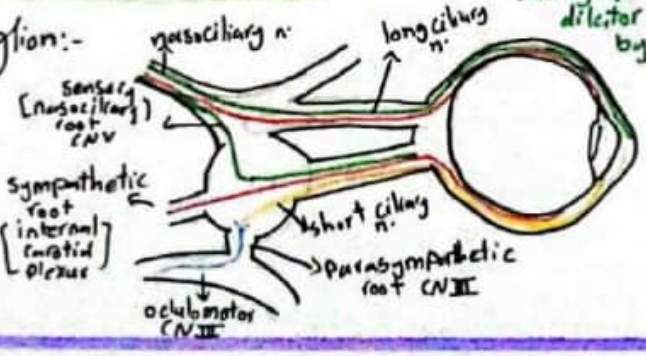
All are supplied by Parasymp. except dilator ms supplied by Sympath.

EOM

- levator palpebral superioris oculomotor n.
- superior oblique ms trochlear n.
- lateral rectus ms. Abducent n.
- inferior oblique
- superior rectus
- inferior rectus
- medial rectus

(inferior oblique, superior rectus, inferior rectus, medial rectus) → oculomotor CN III

Ciliary ganglion:-



Hind Adel

CamScanner

*Causes of uniocular diplopia

A B C D

- A → Astigmatism
- B → Behavioral [Psychogenic]
- C → Cataract
- D → Dislocation lens/ Irido Dialysis

*Causes of Microtropia

3 A's

- Anisometropia
- Angle small
- Absent central field [central scotoma]

*Systemic feature of marfan Syndrome

M A R F A N S

- M → mitral prolapse
- A → Aortic dissection
- R → Regurgitation artic valve
- F → Finger long [arachnodactyly]
- A → Arm span > hight
- N → nasal voice [high arched Palate]
- S → sternal excavation

*Causes of cherry red spot on Retina

Cherry Trees Never Grow Tall

- Cherry → Central retinal artery occlusion
- Trees → Tay-sachs disease
- Never → Niemann-Pick disease
- Grow → Gaucher's disease
- Tall → Trauma [Berlin's edema]

Hind Adel

*Systemic diseases associated with Keratoconus

A B C D E F

- A → Atopy
- B → Bones [osteogenic imperfecta]
- C → Crouzon's syndrome
- D → Down syndrome
- E → Ehler's Danlos syndrome
- F → fingers [Marfan]